UNCLASSIFIED

AD 286 481

Reproduced by the

ARMED SERVICES TECHNICAL INFORMATION AGENCY
ARLINGTON HALL STATION
ARLINGTON 12, VIRGINIA

UNCLASSIFIED

Best Available Copy

63-1-2

Reviews in GEOPHYSICS

NO. 7

TEMPERATURE FOR WORLD AIR ROUTES
at heights of 10,000, 20,000, 30,000, 40,000 and 53,000 feet
with supplementary surface temperatures

R.M. WELLS

AUGUST 1962

BOEING
TRANSPORT DIVISION

TEMPERATURES FOR WORLD AIR ROUTES

AT HEIGHTS OF 10,000, 20,000, 30,000, 40,000 AND 53,000 FEET

WITH

SUPPLEMENTARY SURFACE TEMPERATURES

REVIEWS IN GEOPHSICS NO. 7

BY

RAYMOND M. WELLS

August 1962

THE BOEING COMPANY
Transport Division
Renton, Washington

Price $25.00

CONTENTS

ABSTRACT

Seasonal and annual great circle route temperatures in degrees Celsius are computed for 50-, 75- and 85-per cent reliabilities of occurrence, i.e. temperatures which are not expected to be exceeded 50, 75 and 85 per cent of the time respectively. The temperatures and their standard deviations are computed over some 2000 selected air routes at the 10,000-, 20,000-, 30,000-, 40,000- and 53,000-foot levels. The great circle distance between terminii is also tabulated. A 7090 was used to compute the route temperatures. Input data for the program consist, for each level, of a grid composed of the mean temperature and its standard deviation at the intersection of each 5° of latitude with each 10° of longitude between 60°S and 60°N and at the intersection of each 5° of latitude with each 20° of longitude south and north of 60°S and 60°N respectively.

Supplementary airport surface temperatures are tabulated by month, quarter, half year and year for the 0, 50, 75, 85, 95 and 100 per cent probability of not being exceeded. Lackey's method, adapted for the 7090, was used to compute the surface temperatures.

FORWARD

In 1962 the Transport Division of The Boeing Company published three documents on equivalent winds over commercial and military air routes. These documents are "Great Circle Equivalent Route Winds for Military Application," D6-9175; "Equivalent Winds For North American Air Routes," D6-9176; and "Equivalent Winds For World Air Routes," D6-9177. As a companion to the "wind books" three documents on route temperature and airport surface temperatures were prepared. These are "Great Circle Route Temperatures For Military Applications," D6-7175; "Temperature For North American Air Routes," D6-7176; and "Temperature For World Air Routes," D6-7177.

The industry and ingenuity of L. W. Stumpf for preparing the route temperature program and of R. C. Langan for preparing the surface temperature program, both of the Engineering Computing and Analysis Staff, are gratefully acknowledged. Thanks are also due Alice Post for preparing the route index and for assisting in preparing the input data.

LIST OF ILLUSTRATIONS

TEMPERATURE FOR WORLD AIR ROUTES

at heights of 10,000, 20,000, 30,000, 40,000 and 53,000 feet

with supplementary surface temperatures

I. INTRODUCTION

Aircraft operate in a thermally dynamic environment. To determine the effect of this environment on the economic capability and carrier suitability over established and new route systems requires knowledge of the long term temperature conditions that can be expected at the terminals, during ascent and descent, and along the flight path. This document is an attempt to provide temperature data to meet some of these needs.

Route Temperature. Seasonal and annual great circle route temperatures in degrees Celsius are presented for 50-, 75- and 85-per cent reliabilities of occurrence, i.e. temperatures which are not expected to be exceeded 50, 75, and 85 per cent of the time respectively. These data are presented as the difference between the per cent reliability temperature and the International Standard Atmosphere temperature.

Airport Temperature. Surface temperatures in degrees Fahrenheit are computed for each airport. These surface data are organized by month, by quarter, by half year, and by year for the 0, 50, 75, 85, 95 and 100 per cent probability of not being exceeded.

Because of the broad coverage of route systems and of airports, the temperature tabulations are published in three documents: Great Circle Route Temperatures for Military Applications, D6-7175; Temperature for North American Air Routes, D6-7176; and Temperature for World Air Routes, D6-7177.

II. TEMPERATURE TABULATIONS

A. METHOD

1. Route Temperatures

Route temperatures were computed on the assumption that the distribution of observed temperatures about its mean at each point along a route approximates the normal or Gaussian distribution. This approximation is closely the case for winds but is generally weaker for temperature, since departures of temperature from normality in the vicinity of the polar tropopause and at levels subjected to surface based inversions are sometimes appreciable. Thus temperature estimates of extreme values and of small ranges can result in large errors at levels subjected to seasonal inversions and at mean tropopause heights. A general formula for the "abnormal" distribution of temperature, however, is not available. The mean route temperature and its standard deviation completely describe the normal distribution.

The mean route temperature is determined by first dividing the route into an integral number of segments 200 miles or less in length. Next a temperature is calculated at the mid point of these segments by averaging the four nearest temperature values which enclose each mid-point. These four temperatures in turn are assigned weighted values in proportion to their proximity to the point. The averages at points along the route are used to compute the temperature for the entire route. With reference to Figure 1, the mean route temperature, T_{AB} is given by

$$T_{AB} = \left[\bar{T}_n\right] \qquad (1)$$

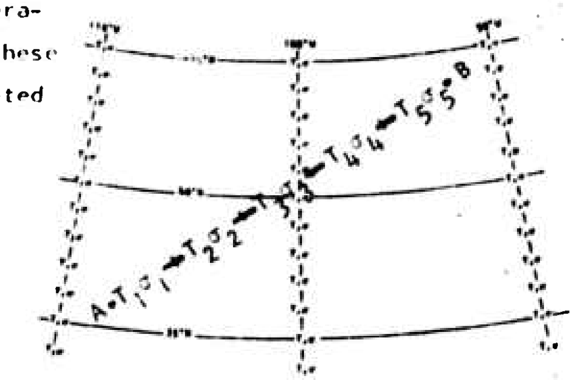


Fig. 1. Route Temperature

where $\bar{T}_n$ is the time average temperature at the mid point of segment n. The bar denotes a mean over a long period of time while the brackets denote the mean value over the route.

2. Standard Deviation

From physical considerations the temperature at points along a route are related to one another[1]. It is therefore necessary to consider the correlation between the temperature at one point and the temperature at another point along the route. While the correlation of temperature with distance varies somewhat with height and region[1], such refinements were not incorporated in the tabulations because of the lack of published information on the variability of temperature.

As with mean route temperatures, the route standard deviation is computed by calculating the standard deviation at the mid point of each segment (Fig. 1) by averaging the four nearest standard deviation values which enclose each mid point. The four standard deviations are assigned weighted values in proportion to their proximity to the point. The averages at these points along the route are used to compute the standard deviation for the entire route. The expression for computing the route standard deviation, σ, is

$$\sigma = t\left[\sigma_n^2\right]^{1/2} \qquad (2)$$

where: σ_n = Standard deviation at point n along the route

t = Factor to convert the mean of the standard deviation at points along the route, $\left[\sigma^2\right]^{1/2}$, into the route standard deviation (Table 1).

Table 1. Correlation of Temperature with Distance

Route Length - n. mi.

	0	500	1000	1500	2000	2500	3000	3500	4000
t	1	0.89	0.79	0.73	0.67	0.61	0.55	0.50	0.45

Durst[1] shows that the correlation of north and south wind components with temperature is small. Consequently the point correlation of equivalent winds with temperature is also likely to be small. As a result equivalent winds and route temperatures may be used together without appreciable error.

3. Great Circle Distance

Route lengths in nautical miles are computed over the great-circle course,

i.e. the least distance on a sphere, between terminals. The expression used to compute great circle distances between terminii P_1 $(\psi_1\lambda_1)$ and P_2 $(\psi_2\lambda_2)$ is

$$D = 60 \cos^{-1}\left[\sin\psi_1 \sin\psi_2 + \cos\lambda_1 \cos\lambda_2 \cos(\lambda_1 - \lambda_2)\right] \quad (3)$$

where: D = Great circle distance in nautical miles

ψ = Latitude

λ = Longitude

$\cos^{-1}[\;]$ = Angle expressed in minutes.

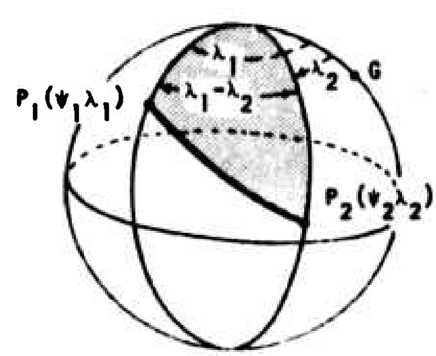


Fig. 2
Great Circle Distance

South latitudes and east longitudes are considered negative and north latitudes and west longitudes are considered positive.

4. Annual Route Temperature

Annual route temperatures are computed from the seasonal values by an iterative process in which temperatures are found such that 50, 75 and 85 per cent of the total area under all four seasonal temperature distribution curves lies to their left. For example in the hypothetical distribution of seasonal route temperatures in Figure 3, the 50-, 75- and 85-per cent annual temperatures are estimated to be -43, -36 and -32 respectively.

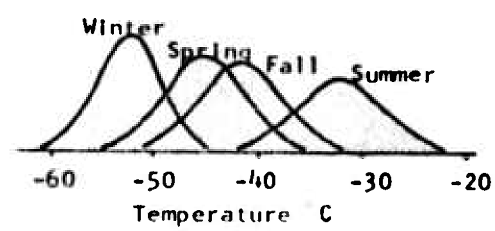


Fig. 3. Hypothetical Seasonal Temperature Distribution

5. Airport Temperature

Lackey's[2] method was used to compute surface reliability temperatures from the monthly mean, extreme minimum and the extreme maximum temperatures. This technique, as Lakcey states, "depends on the statistically demonstrated area-wide similarity of the normalized cumulative frequency curves of observed hourly temperature for given positions of the mean between the absolute extremes."

The substance of Figure 6 was integrated into a 7090 program. This program with the mean, extreme minimum and extreme maximum temperature as input data, was used to compute surface reliability temperatures.

B. INPUT DATA

1. Route Temperatures

The input data for the 7090 program used to compute route temperatures were obtained principally from Upper Air Temperature Over The World[3]. For each level the data consist of grids composed of the mean temperature and its standard deviation at the intersection of each 5° of latitude with each 10° of longitude between 60°S and 60°N and at the intersection of each 5° of latitude with each 20° of longitude north of 60°N and south of 60°S.

The temperature grids are prepared for the 10,000- (700 mb), 20,000- (500 mb), 30,000- (300 mb), 40,000- (200 mb) and 53,000- (100 mb) foot levels for each of the four mid season months: January, April, July and October.

2. Airport Temperatures

The mean, extreme minimum and extreme maximum temperatures used to compute surface temperatures for given reliabilities of occurrence were obtained from United States[4, 5], English[6], Canadian[7,8], and German[9] climatic summaries.

C. TABULATIONS

1. Route Temperature

Mid season monthly 50-, 75- and 85-per cent reliability temperatures and their standard deviations and the annual 50-, 75- and 85-per cent reliability temperatures are computed over selected air routes (Table 5). The tabulations are arranged such that route temperatures are given as the difference between reliability route temperatures and the International Standard Atmosphere temperature. The mean route temperature for each season is also tabulated. Across from each route pair is listed the great circle distance separating the terminals. The tabulations are ordered alphabetically by the terminals that identify each route. In the index (Table 8), each route is referenced under both of its terminals.

An alphabetical listing of terminals with their airport names, geographical coordinates, elevation, and length of longest runway is presented in Table 7.

2. Airport Temperature

An alphabetical listing of airport monthly, quarterly, semi-annual and annual surface temperature for 0- (extreme minimum), 50- (mean), 75-, 85-, 95- and 100- (extreme maximum) per cent probability of not being exceeded are tabulated (Table 6). The average daily maximum temperature is also tabulated.

III. USE OF TABLES

A. ROUTE TEMPERATURE RELIABILITIES

Two methods are presented for computing route temperatures for reliability values in addition to those tabulated. While these methods apply only to observations which follow the "normal" law, as stated in Upper Air Temperatures Over The World[3], "reasonable estimates of the range of temperature can be made wherever the standard deviation does not exceed (as a rough guide) about 4°C". It is further stated that even at levels affected by surface inversions (in January: 700 and 500 mb in Alaska, Canada and the U.S.S.R. and at 700 mb in Japan and Korea) and at levels near varying polar tropopauses (in January and April: 200 and 150 mb in Canada and 200 mb in the United States, British Isles, south Scandinavia and central Europe) a rough estimate can still be made of the temperature range which includes about 80 per cent of the observations. Because of the abnormal shape of the frequency distribution, estimates of smaller ranges or of extreme values will be very badly in error.

1. Error Factor Method

Route temperature reliabilities are computed by adding the product of k times the route standard deviation (tabulated values) to the mean route temperature, where k is a factor derivable from the error function. Values of k are given in Table 2 and are illustrated in Figure 4. Use of Table 2 is illustrated in computing the 85 per cent reliability temperature over the London to New York route during summer at 30,000 feet. From Table 5 the mean July temperature is -42°C and the standard deviation is 4°C. The

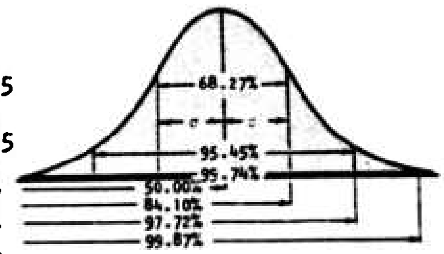
estimated temperature which is not exceeded 85 per cent of the time is -38°C,

$$-42 + (1.04 \times 4) = -38°C.$$

For some problems it may be necessary to compute the temperature range over a route within which a given per cent of observations lie. Such route temperature ranges may be computed with aid of Table 3. In the above example 80 per cent of the route temperatures at 30,000 feet in July over the London to New York route lie within $-42 \pm (1.28 \times 4)$, i.e. between -37°C and -47°C.

Table 2.
Error Factor

%	k
50	0.0
55	0.125
60	0.25
65	0.385
70	0.52
75	0.67
80	0.84
85	1.04
90	1.28
95	1.65



(a)

Table 3.
Range Factor

%	r
20	0.25
30	0.39
40	0.53
50	0.67
60	0.84
70	1.04
80	1.28
90	1.65
95	1.96
99	2.58

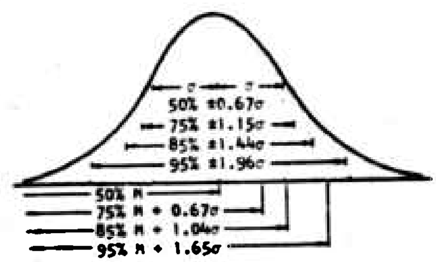


Fig. 4b. Normal Curve

2. <u>Arithmetic Probability Paper Method</u>

Arithmetic probability paper is arranged with the per cent cumulative frequency scale printed on the ordinate such that the integral

$$Q(x) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{x} e^{-x^2/2}\, dx \qquad (4)$$

of the normal frequency curve plots as a straight line while the abscissa has a linear scale. Thus to obtain a frequency distribution of say the route temperature during summer at 30,000 feet over the London to New York route, look up the 50 per cent (-42°C) route temperature and its standard deviation (4°C) in Table 5. Next plot -42 on the 50 per cent value of the ordinate scale and -38°C (-42 + 4) on the 84 per cent ordinate value and draw a straight line through these points. See Figure 5. Use of arithmetic probability paper is illustrated with two examples.

a. 85 per cent of route temperatures are less than -37.8°C
b. Between 10 and 90 per cent of the time route temperatures range between -42.1°C and -36.9°C.

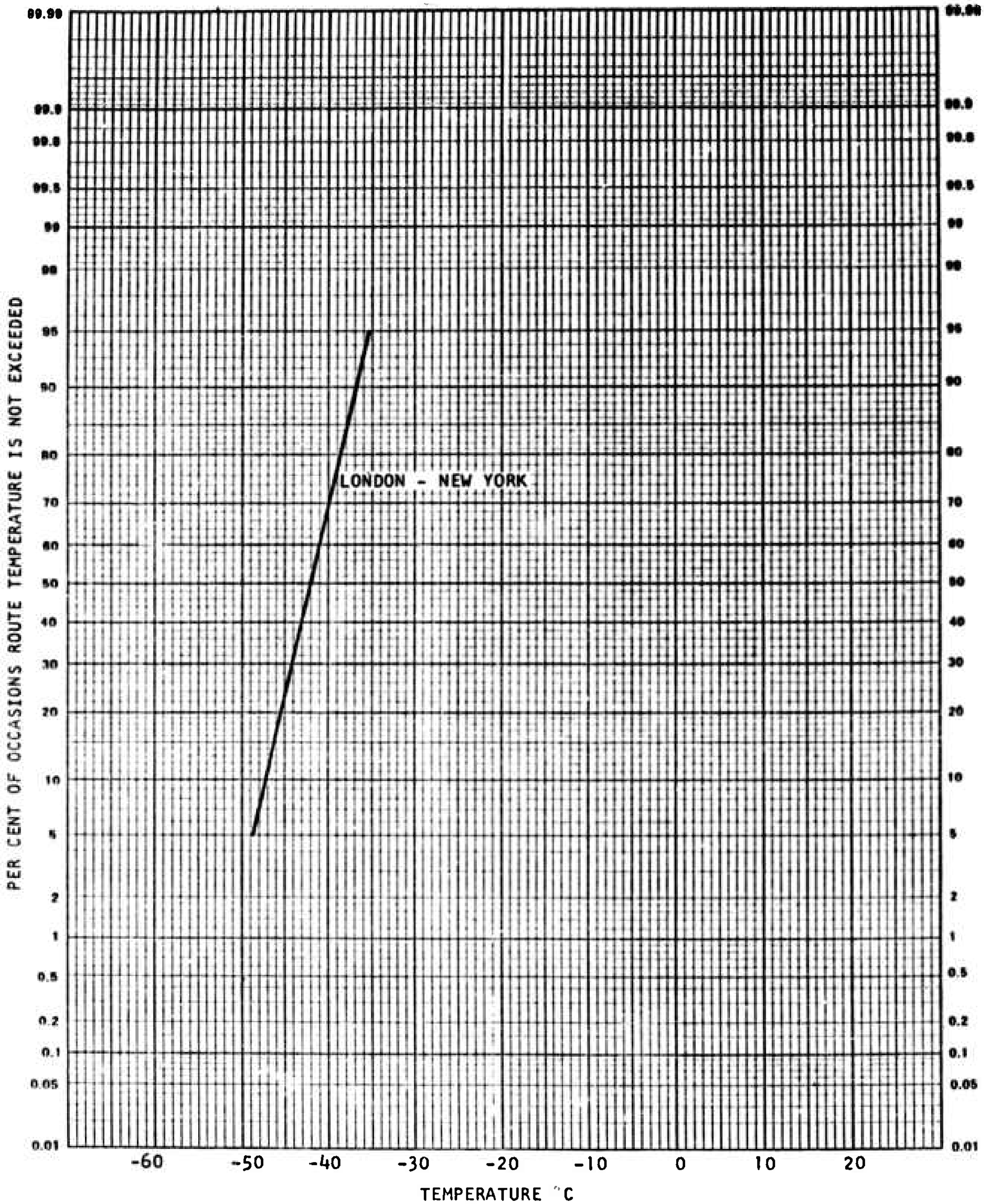


FIGURE 5. ARITHMETIC PROBABILITY PAPER

B. GREAT CIRCLE ROUTE LENGTH

The route length in nautical miles is computed over the great-circle course, i.e. the least distance on a sphere, between terminals (Fig. 6). A nautical mile is the length of one minute of arc along a great circle on the earth's surface, i.e. the earth's circumference is 360 x 60 = 21,600 n. miles. For example the great circle distance between Rio de Janeiro (-22°49', 43°15') and Istanbul (40°58', -28°49') may be computed from (3).

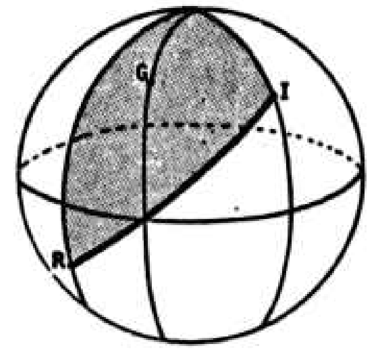


Fig. 6

Great Circle Route Length

$$D = 60 \cos^{-1}\left[\sin\psi_1 \sin\psi_2 + \cos\psi_1 \cos\psi_2 \cos(\lambda_1 - \lambda_2)\right] \qquad (3)$$

With the aid of Table 4,

$$\begin{aligned} D &= 60 \cos^{-1}\left[-\sin(22°49') \sin(40°58') + \cos(22°49') \cos(40°58') \cos(72°04')\right] \\ &= 60 \cos^{-1}\left[-0.039930\right] \\ &= 5537 \text{ n. mi.} \end{aligned}$$

Table 2. Reference Trigonometric Relationships

$\sin(90 + \psi) = \cos\psi \qquad \cos(90 + \psi) = -\sin\psi$

$\sin(90 - \psi) = \cos\psi \qquad \cos(90 - \psi) = \sin\psi$

$\sin(-\psi) = -\sin\psi \qquad \cos(-\psi) = \cos\psi$

+ sin - cos	+ sin + cos
- sin - cos	- sin + cos

C. AIRPORT TEMPERATURES

1. Hourly Temperature Nomograph

Surface temperatures for reliabilities of not being exceeded can be computed by mean of the Hourly Temperature Nomograph[2] (Fig. 7). Use of this nomograph is explained with an example. To compute the July 95 per cent reliability temperature at an airport, it is first necessary to know the July mean, extreme minimum and extreme maximum temperatures, Let these values be 72°F (mean), 50°F (minimum) and 104°F (maximum).

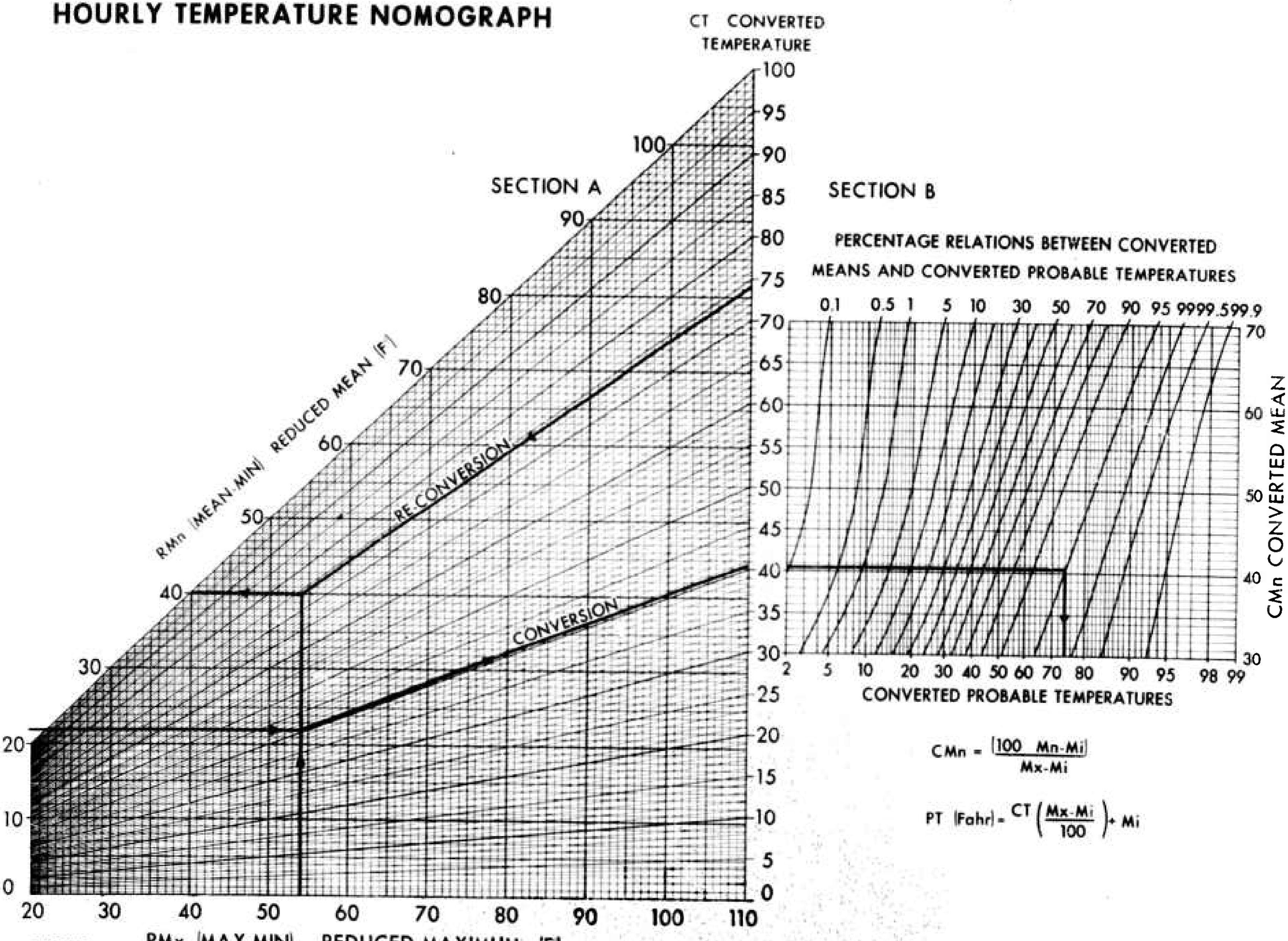
Step One: Normalization to a 100 - scale

Subtract the extreme minimum from the mean to obtain the reduced mean (RMn). Next subtract the mean from the extreme maximum to obtain the reduced maximum (RMx).

RMn = 72 - 50 = 22°F

RMx = 104 - 50 = 54°F

HOURLY TEMPERATURE NOMOGRAPH



$$CMn = \frac{(100 \; Mn-Mi)}{Mx-Mi}$$

$$PT\ (Fahr) = CT\left(\frac{Mx-Mi}{100}\right) + Mi$$

FIG. 7 NOMOGRAPH FOR ASSESSING HOURLY TEMPERATURE PROBABILITIES FROM THE MEAN, EXTREME MAXIMUM AND EXTREME MINIMUM TEMPERATURES.

Step Two: Converted Probable Temperature - PT

At the intersection of RMn and RMx on Section A of the nomograph draw a straight line along the sloping diagonal to obtain the converted mean (CMn) on the converted temperature scale, i.e. CMn = 40.7°.

$$CMn = \frac{100\ (Mn - Mi)}{Mx - Mi} \tag{5}$$

$$= \frac{100\ (72 - 50)}{104 - 50} = 40.7$$

Next enter Section B of the nomogram across to the desired 95 per cent probability sloping line. Read the converted probable temperature at the bottom of Section B, i.e. CT = 74°.

Step Three: Reconversion

Next enter the converted temperature scale at 74° and follow down the sloping line to the intersection with RMx = 54° and then across to the corresponding reduced mean, i.e. RMn = 40°F. The 95 per cent reliability temperature is now obtained by adding the extreme minimum to the reduced mean, i.e. 50 + 40 = 90°F, or alterratively,

$$PT = CT \quad \frac{Mx - Mi}{100} + Mi \tag{6}$$

$$PT(95\%) = 74 \quad \frac{104 - 50}{100} + 50 = 90°F$$

Reliability. Hourly temperature records for twenty stations ranging in latitude between 12°N and 70°N were used to prepare the Hourly Temperature Nomograph. The performance of the nomograph was then tested on 40 different and widely scattered stations. For each station, the actual three essential items for each of the four mid season months were processed by the nomograph to determine 13 percentile levels (1,5,10...99%). The hourly temperature frequencies so computed were compared with the actual recorded frequencies. The results of this test revealled that the nomograph is most accurate during summer and that 91 per cent of the divergencies were less than 3°F and 98 per cent were less than 5°F.

2. <u>Alternate Method for Estimating Airport Reliability Temperatures</u>

In the event that the extreme maximum and extreme minimum monthly temperatures

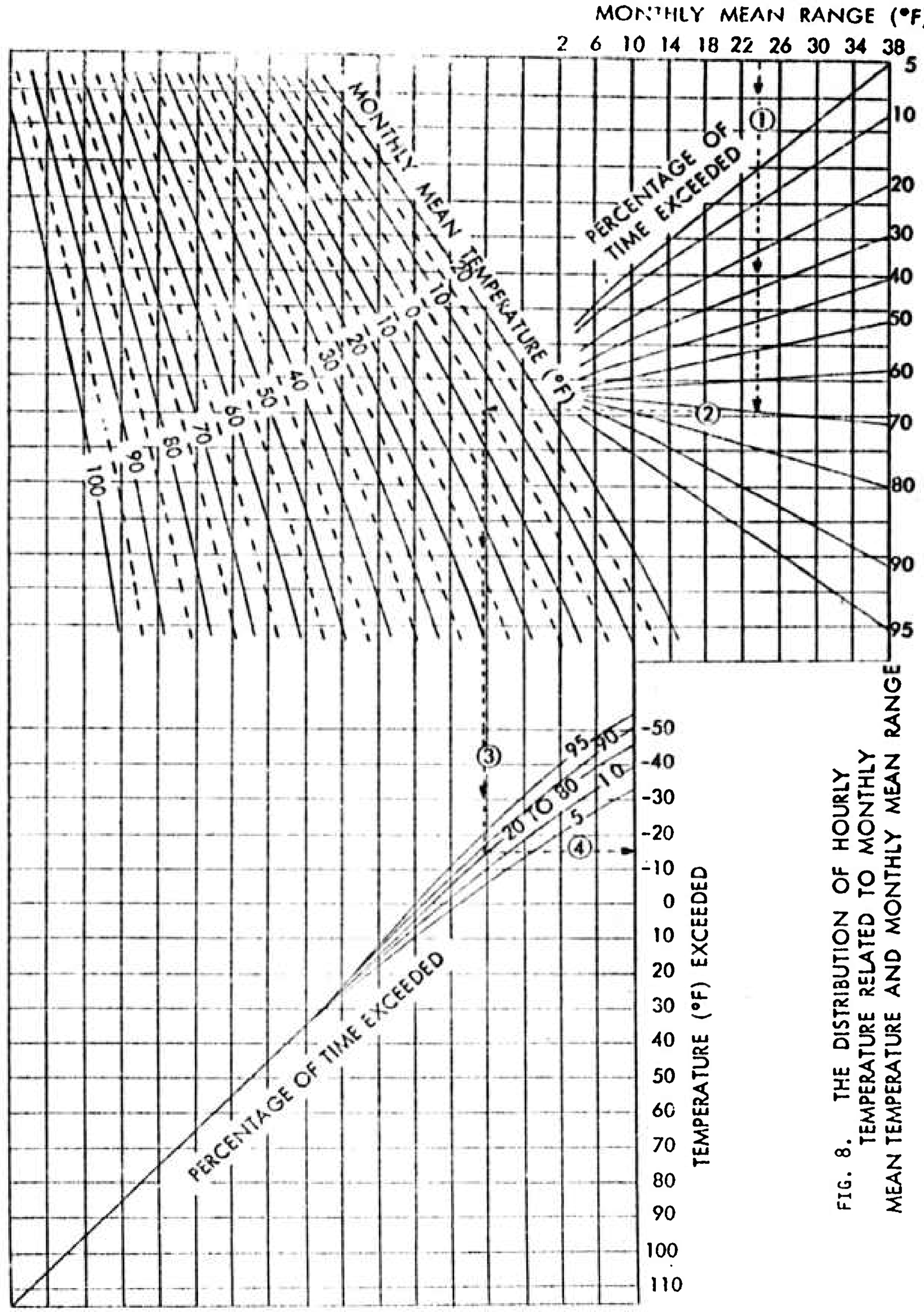


FIG. 8. THE DISTRIBUTION OF HOURLY TEMPERATURE RELATED TO MONTHLY MEAN TEMPERATURE AND MONTHLY MEAN RANGE

are not available for an airport, reliability surface temperatures can be estimated from the monthly mean and monthly mean daily maximum (average daily maximum) temperatures by means of a nomogram[10] developed by the Air Weather Service. The nomogram is based on a graphical correlation method which was used to develop the joint functions between the mean and the monthly mean range and the distribution of hourly temperatures to avoid any assumption concerning the slope of the hourly temperature distribution. The monthly mean range in temperature is the absolute difference between the monthly mean daily maximum and mean daily minimum temperatures or twice the difference between the monthly mean daily maximum and the monthly average daily temperature.

Use of the nomogram is illustrated by estimating the temperature which is exceeded 70 per cent of the time at a station with a January mean monthly temperature of -5°F, a mean maximum temperature of 7°F and a monthly range of 24°F, $2 \times [7 - (-5)]$ °F.

Step One. Enter the graph at 24° in the monthly mean range axis and proceed vertically downward to the 70 per cent line (Fig. 8).

Step Two: From this intersection proceed horizontally to the -5°F monthly mean temperature isoplet.

Step Three: From this point proceed vertically downward to the intersection with the 20 to 80 per cent line and then go horizontally to the temperature exceeded axis where the temperature estimate of -14.8°F is obtained. Conversely, by proceeding from -14.8°F in the reverse order, the per cent of time that this temperature is exceeded is estimated to be 70 per cent.

3. Aerodrome Reference Temperature

For some purposes the Aerodrome Reference Temperature (A.R.T.) is used as a conservative measure of airport temperature. The A.R.T. is defined as

$$\text{A.R.T.} = T_1 + \frac{T_2 - T_1}{3} \qquad (7)$$

where: T_1 = the monthly mean temperature for the hottest month of the year (that which has the highest mean daily temperature).

T_2 = the monthly mean daily maximum temperature for the hottest month.

To use temperature scales, place straight-edge on temperature corresponding to T_1 and T_2 on the outer scale and read A.R.T. from center scale.

With the aid of Figure 9, the A.R.T. at Boston with T_1 (July) = 72°F and T_2 = 80°F is 74.7°F, or

$$\text{A.R.T.} = 72 + \frac{80 - 72}{3} = 74.7^\circ\text{F}$$

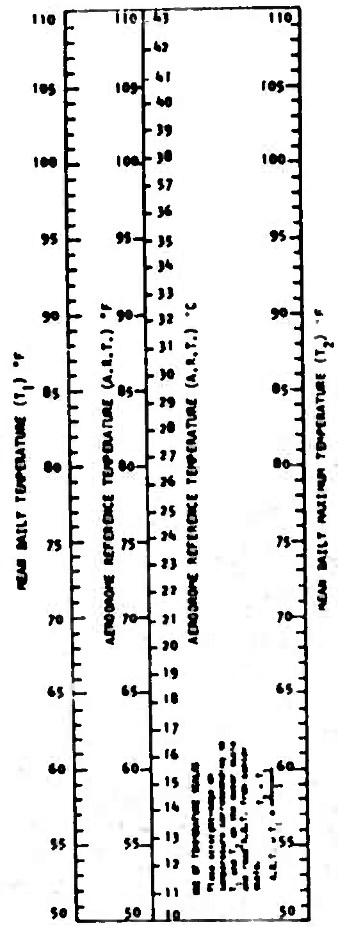


Fig. 9

IV. STANDARD ATMOSPHERES

A. INTERNATIONAL STANDARD ATMOSPHERE

A standard atmosphere is a hypothetical vertical distribution of atmospheric temperature, pressure and density which by international or national agreement is taken to be representative of the atmosphere for the purpose of altimeter calibrations, aircraft design and performance calculations, etc. The internationally accepted standard atmosphere is called the International Civil Aeronautical Organization (ICAO) standard atmosphere or the International Standard Atmosphere (ISA)(Fig. 10). It should be emphasized that this model will never completely match the actual atmosphere and only rarely will it approximate the average value at all altitudes simultaneously.

The ISA atmosphere is a self consistent model in which no water vapor is assumed and the air is assumed to obey the perfect gas law, $\rho = PM/TR$, and the hydrostatic equation, $dP = -g \rho \, dZ$, which when taken together yield the barometric equation which relates temperature, pressure and density variations in the vertical

$$d \ln P = - gM/TR \quad dZ \qquad (8)$$

where: ρ = mass density

P = pressure

M = mean molecular weight of air

T = temperature in degrees absolute

R = universal gas constant

g = acceleration of gravity

Z = geometric altitude

For calculating pressures below 100,000 feet, g and M are usually assumed constant.

B. EXTREME ATMOSPHERES

Atmospheres representative of extreme conditions likely to be encountered over geographical areas of the world are briefly discussed.

1. Arctic Winter Atmosphere

This atmosphere is based on the average January temperature for selected pressure surfaces between 60°N and 90°N. January is representative of the coldest month in the Arctic. The atmosphere is hydrodynamically consistent.

2. Arctic Summer Atmosphere

This atmosphere is based on the average July temperature for selected pressure surfaces between 60°N and 90°N. July is the warmest month in the Arctic. This atmosphere is also hydrodynamically consistent.

3. Tropical Atmosphere

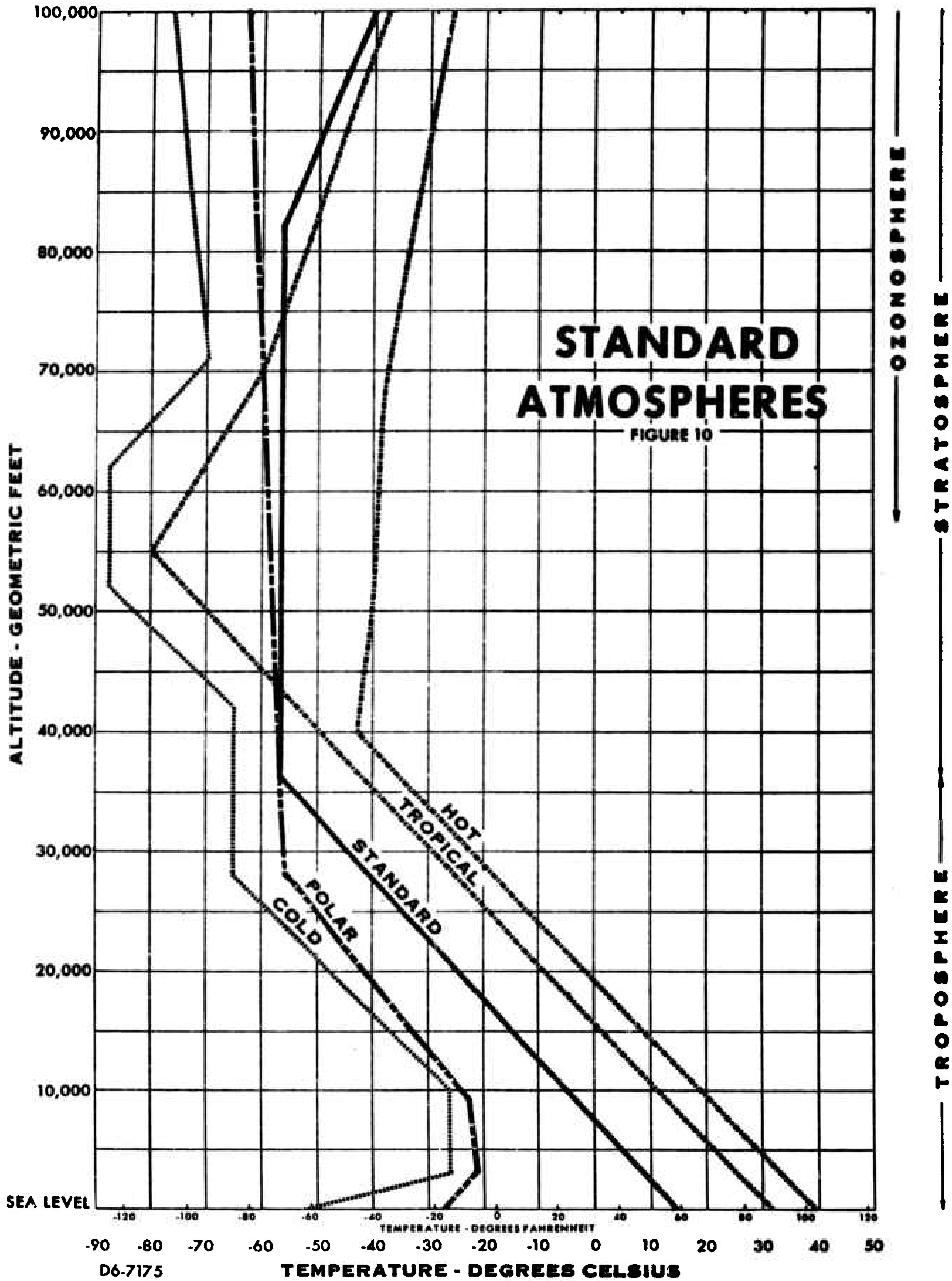
This atmosphere represents conditions which may be encountered between 30°S and 30°N except for desert areas and certain parts of the ocean.

4. Hot Atmosphere

The hot atmosphere represents temperature extremes which are exceeded only 10 per cent of the time in the hottest geographical areas.

5. Cold Atmosphere

The cold atmosphere represents temperature extremes which are exceeded 90 per cent of the time in the coldest geographical areas.



STANDARD ATMOSPHERES

FIGURE 10

REFERENCES

1. Crossley, H. F., "Temperature-compensated equivalent headwinds for jet aircraft," Met. Rep., London, 3, No. 17, 1956, 10 pp.

2. Lackey, E. E., "A method for assessing hourly temperature probabilities from limited weather records," Bull. Amer. Meteor. Soc., 41, No. 6, June 1960, pp. 298-303

3. Goldie, N., Moore, J. G., and Austin, A. A., "Upper air temperatures over the world," Geophys. Mem., London, 13, No. 101, 1958

4. U. S. Weather Bureau, "Climates of the States," Climatography of the United States, Nos. 60-1 through -49

5. U. S. Weather Bureau, Climatic Summary of the United States, Supplement for 1931 through 1952, Climatography of the United States, Nos. 11-1 through -43.

6. Meteorological Office, Tables of Temperature, Relative Humidity and Precipitation for the World, Parts I-VI, London, 1958

7. Meteorological Branch, The Climate of Canada, Department of Transport, Toronto, Canada, 1960

8. Meteorological Branch, Climatic Summaries for Selected Meteorological Stations in Canada, Toronto, Canada, 1954

9. Hoffman, G., "Die mittleren jahrlichen and absoluten extremtemperaturen der elde, Teil I, II," Institut Fur Meteorologie und Geophysik der Fieren Universitat Berline 1960

10. United States Air Force Air Weather Service, "Empirically determined distribution of hourly temperatures," Climatic Method Files, Chapter 1 - Temperature, Section A, 30 April 1955, 14 pp.

TABLE 5

ROUTE TEMPERATURES AT THE 10,000–, 20,000–, 30,000–, 40,000–, AND 53,000–FOOT LEVELS

TABLE 5. ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50*	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
ACCRA TO BEIRUT																									2606 N.MI.
53,000	-56.5	-72	-16	-14	-13	-71	-14	-12	-11	-74	-18	-16	-15	-73	-17	-15	-14	-73	-16	-14	-13	3	3	3	3
40,000	-56.5	-54	3	5	6	-53	3	6	7	-51	6	7	8	-53	3	5	6	-53	4	5	6	3	4	2	2
30,000	-44.5	-40	5	6	7	-35	10	11	12	-29	15	17	17	-34	10	12	12	-34	10	13	14	2	2	2	2
20,000	-21.2	-13	9	10	11	-10	11	13	14	-4	17	18	19	-8	13	14	15	-9	12	14	16	2	2	2	1
10,000	- 4.6	4	9	10	11	7	12	13	14	12	17	18	19	9	13	14	15	8	13	15	16	2	2	2	2
ACCRA TO CASABLANCA																									1728 N.MI.
53,000	-56.5	-72	-16	-14	-13	-71	-15	-13	-12	-74	-17	-15	-14	-74	-17	-15	-14	-73	-16	-14	-13	3	3	3	3
40,000	-56.5	-55	2	4	5	-53	3	6	7	-55	4	5	6	-53	3	5	6	-53	3	5	5	3	4	2	2
30,000	-44.5	-39	5	7	8	-34	10	11	12	-33	12	13	14	-34	10	12	13	-35	9	11	12	2	2	2	2
20,000	-21.2	-12	9	11	11	-10	12	13	14	-6	15	16	17	-8	14	15	15	-9	12	14	15	2	2	2	2
10,000	- 4.6	5	10	11	12	7	12	13	14	13	17	18	19	8	13	14	15	8	13	15	16	2	2	2	2
ACCRA TO DAKAR																									1159 N.MI.
53,000	-56.5	-77	-21	-19	-18	-76	-20	-18	-17	-76	-20	-18	-17	-78	-21	-19	-19	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	4	7	8	-54	2	3	4	-52	5	6	7	-53	[illegible]	5	6	3	3	2	2
30,000	-44.5	-35	10	11	12	-31	14	15	15	-33	12	13	14	-31	13	14	15	-32	12	14	14	2	2	2	2
20,000	-21.2	-8	13	14	14	-7	15	16	16	-6	16	17	17	-6	16	16	17	-7	15	16	16	1	2	1	1
10,000	- 4.6	8	13	14	14	10	14	16	16	10	15	16	16	10	15	16	16	10	14	15	16	1	2	1	1
ACCRA TO FREETOWN																									797 N.MI.
53,000	-56.5	-76	-21	-19	-18	-77	-20	-19	-18	-76	-20	-18	-17	-78	-22	-20	-19	-77	-21	-19	-18	3	3	3	3
40,000	-56.5	-54	2	4	5	-52	5	7	8	-54	2	3	4	-52	5	6	7	-53	4	5	6	3	3	2	2
30,000	-44.5	-34	11	12	12	-30	14	16	16	-12	12	13	14	-31	14	15	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-8	14	14	15	-6	15	16	17	-5	16	17	17	-6	16	16	17	-6	15	16	17	1	2	1	1
10,000	- 4.6	9	13	14	15	10	15	16	17	10	14	15	16	10	15	16	16	10	14	15	16	1	2	1	1
ACCRA TO JOHANNESBURG																									2522 N.MI.
53,000	-56.5	-76	-20	-17	-16	-75	-19	-17	-16	-71	-15	-13	-12	-73	-17	-15	-14	-74	-18	-15	-14	3	3	3	3
40,000	-56.5	-53	4	6	7	-52	4	7	8	-52	4	6	7	-52	4	6	7	-52	4	6	8	3	3	2	3
30,000	-44.5	-32	13	14	15	-31	13	15	15	-33	11	13	13	-32	12	14	15	-32	12	14	15	2	2	2	2
20,000	-21.2	-5	16	17	17	-6	15	17	17	-7	14	16	16	-7	15	16	16	-6	15	16	17	1	2	2	2
10,000	- 4.6	10	14	15	16	9	14	15	16	6	10	12	13	10	14	16	16	9	13	15	16	2	2	2	2
ACCRA TO KANO																									644 N.MI.
53,000	-56.5	-77	-21	-19	-18	-77	-20	-18	-17	-76	-20	-18	-17	-77	-21	-19	-18	-77	-20	-19	-18	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	6	-54	2	3	4	-52	5	6	7	-53	4	5	6	3	3	2	2
30,000	-44.5	-34	10	11	12	-30	15	16	16	-32	13	14	15	-31	14	15	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-8	13	14	15	-6	15	16	17	-5	16	17	18	-6	16	16	16	-6	15	16	17	1	2	1	1
10,000	- 4.6	9	13	14	15	10	15	16	17	10	15	15	16	10	15	16	16	10	14	16	16	1	2	1	1
ACCRA TO LAGOS																									217 N.MI.
53,000	-56.5	-77	-21	-19	-18	-77	-20	-19	-18	-76	-20	-18	-17	-78	-21	-20	-19	-77	-21	-19	-18	3	3	3	3
40,000	-56.5	-54	2	4	5	-52	5	7	8	-54	2	3	4	-52	5	6	7	-53	4	5	6	3	3	2	2
30,000	-44.5	-34	11	12	12	-30	15	16	17	-32	12	13	14	-31	14	15	16	-32	13	14	15	2	2	2	2
20,000	-21.2	-7	14	15	15	-6	16	17	17	-5	16	17	17	-6	16	16	17	-6	15	16	17	1	3	1	1
10,000	- 4.6	9	14	14	15	10	15	16	17	[illegible]	14	15	15	10	15	16	16	10	14	15	16	1	2	1	1
ACCRA TO LAJES																									2469 N.MI.
53,000	-56.5	-71	-14	-12	-11	-70	-13	-11	-10	-71	-15	-13	-12	-72	-16	-14	-13	-71	-14	-12	-11	3	3	3	3
40,000	-56.5	-56	1	3	5	-55	[illegible]	5	6	-53	3	5	6	-54	3	4	5	-54	2	4	5	4	4	2	2
30,000	-44.5	-40	5	6	7	-36	9	10	11	-34	11	12	13	-35	10	11	12	-36	9	10	11	2	2	2	2
20,000	-21.2	-13	6	10	11	-11	11	12	13	-7	14	15	16	-8	13	14	15	-10	12	13	14	2	2	2	2
10,000	- 4.6	4	9	11	11	[illegible]	10	12	13	11	15	16	17	8	12	13	14	7	12	14	15	2	2	2	2
ACCRA TO LEOPOLDVILLE																									1110 N.MI.
53,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-18	-76	-19	-17	-16	-77	-21	-19	-18	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-54	3	4	5	-52	5	6	7	-53	4	5	6	2	3	2	2
30,000	-44.5	-32	12	13	14	-30	15	16	17	-32	12	13	14	-31	14	15	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-6	15	16	17	-4	17	18	19	-5	16	17	17	-6	16	17	17	-5	16	17	18	1	2	1	1
10,000	- 4.6	10	14	15	16	10	15	16	16	8	13	14	15	10	15	16	17	10	14	15	16	1	2	2	2
ACCRA TO LISBON																									2049 N.MI.
53,000	-56.5	-71	-14	-12	-11	-69	-13	-11	-10	-72	-15	-14	-12	-72	-15	-13	-12	-71	-14	-12	-11	3	3	3	3
40,000	-56.5	-55	1	4	5	-54	3	5	7	-53	4	5	6	-54	3	4	5	-54	3	4	5	4	4	2	2
30,000	-44.5	-40	4	6	7	-36	9	10	11	-33	11	13	14	-35	10	11	12	-36	8	11	12	2	2	2	2
20,000	-21.2	-13	8	10	10	-11	10	12	13	-7	15	16	16	-8	13	14	15	-10	12	13	14	2	2	2	2
10,000	- 4.6	4	9	10	11	6	11	12	13	12	17	18	19	7	12	13	14	8	12	14	15	2	2	2	2
ACCRA TO LONDON																									2752 N.MI.
53,000	-56.5	-67	-11	-8	-7	-66	-9	-7	-6	-68	-11	-9	-8	-68	-12	-10	-9	-67	-11	-8	-7	4	3	3	3
40,000	-56.5	-56	1	4	5	-55	2	5	7	-52	4	6	7	-54	2	4	5	-54	2	4	6	4	5	3	3
30,000	-44.5	-43	2	4	5	-39	6	7	8	-34	10	12	13	-37	7	9	10	-38	6	9	10	3	3	3	3
20,000	-21.2	-16	5	7	8	-13	8	10	11	-8	13	15	15	-11	11	12	13	-12	9	11	13	3	3	2	2
10,000	- 4.6	1	5	8	9	4	8	10	11	11	15	17	17	5	10	11	12	5	10	12	14	3	3	2	2
ACCRA TO PORT OF SPAIN																									3642 N.MI.
53,000	-56.5	-78	-22	-20	-19	-78	-21	-20	-19	-75	-18	-16	-15	-78	-22	-20	-19	-77	-21	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-53	3	6	7	-54	2	3	4	-53	4	5	6	-54	3	4	5	3	3	2	2
30,000	-44.5	-34	11	12	13	-31	14	15	15	-33	12	13	13	-31	13	15	15	-32	12	14	15	2	2	2	2
20,000	-21.2	-7	14	15	16	-6	15	16	17	-6	15	16	16	-6	16	17	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	9	13	14	15	9	14	15	16	9	14	15	15	10	15	16	16	9	14	15	16	1	2	1	2
ACCRA TO RIO DE JANEIRO																									3047 N.MI.
53,000	-56.5	-77	-20	-18	-17	-77	-20	-18	-17	-72	-15	-13	-12	-74	-17	-15	-14	-75	-18	-15	-14	4	3	3	3
40,000	-56.5	-54	3	5	6	-52	4	7	8	-53	4	5	6	-53	4	5	6	-53	4	6	7	3	4	2	3
30,000	-44.5	-32	12	14	14	-31	13	15	16	-33	12	13	14	-32	12	14	15	-52	12	14	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-6	15	17	17	-7	14	15	16	-7	15	16	17	-6	15	16	17	2	2	2	2
10,000	- 4.6	9	14	15	16	9	14	15	16	7	12	13	14	10	14	16	16	9	13	15	16	2	2	2	2
ADANA TO KARACHI																									1775 N.MI.
53,000	-56.5	-65	-8	-6	-4	-64	-7	-5	-4	-71	-14	-12	-11	-67	-11	-8	-6	-67	-10	-7	-6	4	4	4	4
40,000	-56.5	-55	2	5	6	-54	3	6	8	-46	10	12	14	-55	2	4	5	-52	4	8	10	4	5	4	4
30,000	-44.5	-43	1	4	5	-40	4	7	8	-27	18	20	21	-37	7	10	11	-37	8	12	14	4	4	3	3
20,000	-21.2	-18	3	5	7	-14	8	10	11	-5	18	20	22	-11	10	12	13	-11	10	14	16	4	3	3	3
10,000	- 4.6	-2	2	5	6	4	9	11	13	15	19	21	22	6	11	13	14	6	10	14	16	4	3	2	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE — JANUARY 50*	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
ADDIS ABABA TO ADEN																						457 N.MI.			
55,000	-56.5	-78	-22	-20	-19	-78	-22	-20	-18	-76	-20	-18	-17	-78	-22	-20	-19	-78	-21	-19	-16	5	5	5	5
40,000	-56.5	-54	5	4	4	-52	5	7	8	-52	4	6	6	-52	4	5	6	-53	4	6	7	2	5	2	2
30,000	-44.5	-32	12	13	14	-30	14	16	16	-30	14	16	16	-31	14	15	16	-31	14	15	16	2	2	2	2
20,000	-21.2	-4	17	18	18	-5	16	17	18	-5	17	18	18	-6	16	17	17	-5	16	17	18	2	2	2	1
10,000	- 4.6	10	15	16	16	10	15	16	17	13	18	19	19	10	14	15	16	11	15	17	18	2	2	2	1
ADDIS ABABA TO BASRA																						1390 N.MI.			
55,000	-56.5	-74	-17	-15	-14	-74	-17	-15	-14	-75	-18	-16	-15	-75	-19	-16	-15	-74	-18	-15	-14	5	5	5	5
40,000	-56.5	-54	3	4	5	-53	4	6	7	-50	7	8	9	-51	5	5	6	-52	4	6	8	5	5	2	2
30,000	-44.5	-37	8	9	10	-34	11	13	13	-28	17	16	19	-31	12	13	14	-33	12	14	15	5	2	2	2
20,000	-21.2	-10	11	13	14	-6	13	14	15	-4	17	19	20	-7	14	15	16	-7	14	16	17	2	2	2	2
10,000	- 4.6	6	11	12	13	8	13	15	15	15	20	21	21	9	14	15	15	10	14	17	18	2	2	2	2
ADDIS ABABA TO BEIRUT																						1501 N.MI.			
55,000	-56.5	-72	-16	-14	-13	-72	-15	-13	-12	-74	-18	-16	-15	-74	-17	-15	-14	-73	-16	-14	-13	5	5	5	5
40,000	-56.5	-54	3	5	6	-53	5	6	7	-49	7	9	9	-53	3	5	5	-52	4	6	7	5	4	2	2
30,000	-44.5	-39	6	7	8	-35	10	11	12	-28	17	18	19	-34	11	12	13	-34	11	13	15	2	2	2	2
20,000	-21.2	-11	10	11	12	-10	12	13	14	-4	17	19	19	-8	13	15	15	-8	13	15	16	2	2	2	2
10,000	- 4.6	5	9	11	12	7	12	13	14	14	19	20	21	9	13	14	15	9	13	15	17	2	2	2	2
ADDIS ABABA TO BOMBAY																						2072 N.MI.			
55,000	-56.5	-78	-21	-19	-18	-78	-21	-19	-18	-76	-20	-18	-17	-78	-22	-20	-19	-76	-21	-19	-18	5	4	5	5
40,000	-56.5	-55	2	4	5	-52	5	7	8	-50	6	8	9	-53	4	5	6	-52	4	6	7	5	5	5	5
30,000	-44.5	-32	12	14	15	-31	13	15	16	-29	16	17	18	-31	13	15	16	-31	14	15	16	5	5	2	2
20,000	-21.2	-6	15	16	17	-6	16	17	18	-4	17	16	19	-6	16	17	17	-5	16	17	18	2	2	2	2
10,000	- 4.6	9	14	15	16	10	15	16	17	13	18	19	19	9	14	15	16	10	15	17	16	2	2	2	2
ADDIS ABABA TO CAIRO																						1333 N.MI.			
55,000	-56.5	-73	-17	-15	-14	-73	-16	-14	-13	-75	-18	-17	-16	-75	-18	-16	-15	-74	-18	-15	-14	5	5	5	5
40,000	-56.5	-54	3	4	5	-53	3	6	7	-50	7	8	9	-53	3	5	6	-52	4	6	7	5	5	2	2
30,000	-44.5	-38	7	8	9	-34	11	12	13	-28	16	18	16	-33	11	13	14	-33	11	14	15	2	2	2	2
20,000	-21.2	-10	11	13	13	-9	13	14	15	-4	17	18	19	-7	14	15	16	-7	14	16	17	2	2	2	2
10,000	- 4.6	6	11	12	13	8	12	14	15	14	18	20	20	9	14	15	15	9	14	16	17	2	2	2	2
ADDIS ABABA TO COLOMBO																						2448 N.MI.			
55,000	-56.5	-80	-23	-22	-21	-78	-22	-19	-18	-77	-21	-19	-18	-79	-23	-21	-20	-79	-22	-20	-19	5	5	5	5
40,000	-56.5	-55	2	3	4	-52	5	7	8	-53	4	5	6	-53	4	5	6	-53	3	6	7	5	5	2	2
30,000	-44.5	-31	14	15	16	-30	15	16	17	-30	14	16	16	-31	13	15	15	-30	14	15	16	2	2	2	2
20,000	-21.2	-5	17	18	18	-5	16	17	18	-5	17	18	18	-6	16	17	17	-5	16	17	18	2	2	2	2
10,000	- 4.6	10	14	15	16	10	15	16	16	11	15	17	17	9	14	15	16	10	15	16	16	1	2	2	2
ADDIS ABABA TO DHAHRAN																						1224 N.MI.			
55,000	-56.5	-75	-19	-17	-16	-75	-19	-17	-16	-75	-19	-17	-16	-76	-20	-18	-17	-76	-19	-17	-16	5	5	5	5
40,000	-56.5	-54	3	4	5	-52	4	7	8	-50	8	8	9	-53	4	5	6	-52	4	6	7	2	5	2	2
30,000	-44.5	-35	9	11	12	-32	12	14	15	-28	16	18	18	-32	13	14	15	-32	13	15	16	5	2	2	2
20,000	-21.2	-8	13	14	15	-7	14	16	16	-4	17	19	19	-6	15	16	17	-6	15	17	18	2	2	2	2
10,000	- 4.6	8	12	14	15	9	14	15	16	15	20	21	21	9	14	15	16	10	15	17	18	2	2	2	2
ADDIS ABABA TO JIDDA																						750 N.MI.			
55,000	-56.5	-76	-20	-18	-17	-77	-20	-18	-17	-76	-19	-18	-17	-77	-21	-19	-18	-76	-20	-18	-17	5	5	5	5
40,000	-56.5	-54	3	4	5	-52	4	6	7	-51	5	7	7	-53	4	5	6	-52	4	6	7	2	5	2	2
30,000	-44.5	-35	10	11	12	-32	13	14	15	-29	15	17	17	-31	13	15	15	-32	13	15	16	2	2	2	2
20,000	-21.2	-7	14	15	16	-6	15	16	17	-4	17	18	19	-6	15	16	17	-6	15	17	18	2	2	2	2
10,000	- 4.6	9	14	15	16	10	14	16	16	14	19	20	20	10	14	15	16	11	15	17	18	2	2	2	2
ADDIS ABABA TO KANO																						1791 N.MI.			
55,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-18	-76	-20	-18	-17	-77	-21	-19	-18	-77	-20	-19	-18	5	5	5	5
40,000	-56.5	-54	3	4	5	-52	5	7	8	-53	3	5	5	-52	5	6	7	-53	4	6	7	2	5	2	2
30,000	-44.5	-34	11	12	12	-30	14	15	16	-31	14	15	16	-31	14	15	16	-31	13	14	15	2	2	2	2
20,000	-21.2	-7	15	16	16	-6	15	17	17	-5	16	17	18	-6	16	16	17	-6	16	17	17	2	2	1	1
10,000	- 4.6	10	14	16	16	10	15	16	17	11	15	16	17	10	15	16	16	10	15	16	16	2	2	1	1
ADDIS ABABA TO KHARTOUM																						536 N.MI.			
55,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-18	-76	-20	-18	-17	-77	-21	-19	-18	-77	-21	-19	-18	5	5	5	5
40,000	-56.5	-54	3	4	5	-52	5	7	8	-52	4	6	6	-52	4	6	6	-52	4	6	7	2	5	2	2
30,000	-44.5	-34	11	12	13	-31	14	15	16	-30	15	16	16	-31	14	15	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-6	16	17	17	-6	16	17	17	-5	17	18	18	-6	16	16	17	-5	16	17	18	2	2	2	1
10,000	- 4.6	10	15	16	17	10	15	16	17	12	17	18	18	10	15	15	16	11	15	17	17	2	2	2	1
ADDIS ABABA TO NAIROBI																						628 N.MI.			
55,000	-56.5	-78	-22	-20	-19	-78	-22	-19	-18	-76	-19	-18	-17	-78	-21	-20	-19	-78	-21	-19	-18	5	5	5	5
40,000	-56.5	-53	3	4	5	-52	5	7	8	-53	4	5	5	-52	4	6	6	-53	4	6	7	2	5	2	2
30,000	-44.5	-31	13	14	15	-30	15	16	17	-31	14	15	15	-30	14	15	16	-30	14	15	16	2	2	2	2
20,000	-21.2	-4	17	18	19	-4	17	18	18	-5	16	17	18	-6	16	17	17	-5	16	18	16	1	1	1	1
10,000	- 4.6	10	15	16	16	10	15	16	16	10	15	16	16	10	15	15	16	10	15	16	16	2	1	1	1
ADELAIDE TO MELBOURNE																						350 N.MI.			
55,000	-56.5	-62	-6	-5	-2	-61	-5	-2	-1	-58	-1	1	2	-57	-1	1	2	-60	-3	-1	1	4	4	4	5
40,000	-56.5	-55	1	4	5	-57	-0	3	4	-54	3	5	7	-52	4	7	9	-55	2	6	8	4	4	4	5
30,000	-44.5	-39	5	7	9	-44	0	2	4	-48	-3	-1	1	-45	-0	2	3	-44	1	4	5	3	3	4	5
20,000	-21.2	-12	9	11	12	-18	4	6	7	-25	-2	0	2	-19	2	5	6	-18	3	6	8	5	5	4	4
10,000	- 4.6	4	9	11	12	-1	3	6	7	-6	-1	1	2	-2	2	5	6	-1	3	6	8	5	5	5	4
ADELAIDE TO PERTH																						1142 N.MI.			
55,000	-56.5	-64	-8	-5	-4	-63	-7	-4	-3	-60	-3	-1	0	-60	-4	-1	-0	-62	-5	-2	-1	4	4	4	5
40,000	-56.5	-55	2	4	6	-57	-0	2	4	-54	3	5	7	-52	4	7	9	-54	2	6	7	4	4	4	5
30,000	-44.5	-38	6	8	10	-42	2	4	5	-45	-0	3	4	-43	1	4	5	-42	2	5	7	5	5	4	3
20,000	-21.2	-11	10	12	13	-16	5	7	8	-21	-0	2	4	-17	4	7	8	-16	5	8	9	5	5	4	4
10,000	- 4.6	5	10	12	13	1	6	8	9	-4	1	3	4	-1	4	6	8	0	5	8	9	5	5	5	4
ADELAIDE TO SYDNEY																						628 N.MI.			
55,000	-56.5	-64	-8	-5	-4	-63	-6	-4	-2	-59	-3	-0	1	-59	-2	-0	1	-61	-5	-2	-1	4	4	4	5
40,000	-56.5	-55	1	4	5	-56	1	3	5	-54	3	5	7	-53	4	7	9	-54	2	6	8	4	4	4	5
30,000	-44.5	-39	6	8	9	-43	1	3	5	-47	-2	0	2	-44	1	3	4	-43	1	4	6	5	5	4	3
20,000	-21.2	-12	9	11	12	-17	4	7	8	-22	-1	1	3	-18	3	5	6	-17	4	7	9	5	5	4	5
10,000	- 4.6	5	9	11	12	-1	4	6	7	-5	-0	2	3	-2	3	5	7	-1	4	7	9	5	3	5	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
ADEN TO BASRA																						1075 N.MI.			
53,000	-56.5	-73	-16	-14	-13	-73	-16	-14	-13	-75	-18	-16	-15	-75	-18	-16	-15	-74	-17	-15	-14	3	3	3	3
40,000	-56.5	-54	3	5	6	-53	4	6	8	-49	8	9	10	-53	3	5	6	-52	4	7	8	3	4	3	2
30,000	-44.5	-37	7	9	10	-34	10	12	13	-27	17	19	20	-33	11	13	14	-33	12	14	16	3	3	2	3
20,000	-21.2	-11	10	12	13	-9	12	14	15	-3	18	19	20	-7	14	15	16	-8	14	16	17	2	2	2	2
10,000	- 4.6	6	10	12	13	8	13	14	15	16	20	22	22	9	13	15	15	10	14	17	18	2	2	2	2
ADEN TO BEIRUT																						1364 N.MI.			
53,000	-56.5	-71	-15	-13	-12	-71	-14	-12	-11	-74	-17	-16	-14	-73	-17	-14	-13	-72	-16	-13	-12	3	3	3	3
40,000	-56.5	-54	3	5	6	-53	3	6	7	-49	8	9	10	-54	3	4	5	-52	4	6	8	3	4	2	2
30,000	-44.5	-39	5	7	8	-36	9	11	11	-27	17	19	20	-34	10	12	13	-34	10	13	15	3	3	2	2
20,000	-21.2	-12	9	10	11	-10	11	13	13	-4	18	19	20	-8	13	14	15	-9	13	15	16	2	2	2	2
10,000	- 4.6	4	9	10	11	7	11	13	14	15	20	21	21	8	13	14	15	8	13	16	17	3	3	2	2
ADEN TO BOMBAY																						1647 N.MI.			
53,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-17	-76	-20	-18	-17	-78	-22	-20	-18	-77	-21	-19	-17	3	4	3	3
40,000	-56.5	-55	2	4	5	-52	5	7	8	-50	7	9	10	-53	3	5	7	-52	4	7	8	3	3	3	3
30,000	-44.5	-33	12	14	15	-32	13	15	16	-28	16	18	19	-31	13	15	16	-31	14	16	17	3	3	2	3
20,000	-21.2	-7	14	15	16	-6	15	17	18	-4	17	19	19	-6	15	17	17	-6	16	17	18	2	2	2	2
10,000	- 4.6	9	13	15	15	10	15	16	17	14	18	19	20	9	14	15	16	10	15	17	18	2	2	2	2
ADEN TO CAIRO																						1285 N.MI.			
53,000	-56.5	-73	-16	-14	-13	-72	-16	-14	-13	-75	-18	-16	-15	-74	-18	-16	-15	-73	-17	-15	-13	3	3	3	3
40,000	-56.5	-54	3	5	6	-53	3	6	7	-49	7	9	10	-53	3	5	5	-52	4	6	7	3	3	2	2
30,000	-44.5	-38	6	8	9	-34	10	12	12	-27	17	18	19	-33	11	13	14	-33	11	14	15	2	2	2	2
20,000	-21.2	-11	10	12	12	-9	12	14	14	-4	17	19	19	-7	14	15	16	-8	13	15	17	2	2	2	2
10,000	- 4.6	5	10	12	12	7	12	14	14	15	19	21	21	9	13	15	15	9	14	16	17	2	2	2	2
ADEN TO COLOMBO																						2090 N.MI.			
53,000	-56.5	-80	-23	-22	-21	-74	-22	-19	-18	-77	-21	-19	-17	-80	-23	-21	-20	-79	-22	-20	-19	3	4	3	3
40,000	-56.5	-55	2	3	4	-52	5	7	8	-52	4	6	7	-53	3	5	6	-53	4	6	7	3	3	2	2
30,000	-44.5	-31	14	15	16	-30	14	16	17	-30	15	16	17	-31	13	15	15	-30	14	16	16	2	2	2	2
20,000	-21.2	-5	16	17	18	-6	16	17	18	-4	17	18	19	-6	16	17	17	-5	16	17	18	2	2	2	2
10,000	- 4.6	10	14	15	16	10	15	16	16	11	16	17	18	9	14	15	16	10	15	16	17	2	2	2	2
ADEN TO DHAHRAN																						857 N.MI.			
53,000	-56.5	-74	-18	-16	-15	-75	-18	-16	-15	-75	-19	-17	-16	-76	-20	-17	-16	-75	-19	-17	-15	3	3	3	3
40,000	-56.5	-54	3	4	6	-52	4	7	8	-50	7	9	10	-53	3	5	6	-52	4	7	8	3	3	2	2
30,000	-44.5	-36	9	11	12	-33	11	13	14	-27	17	18	19	-32	12	14	15	-32	12	15	16	3	3	2	3
20,000	-21.2	-9	12	13	14	-7	14	15	16	-4	17	19	20	-6	15	16	17	-7	15	17	18	2	2	2	2
10,000	- 4.6	7	12	13	14	9	14	15	16	16	20	21	22	9	14	15	16	10	15	17	18	2	2	2	2
ADEN TO EL ADEM																						1630 N.MI.			
51,000	-56.5	-72	-15	-13	-12	-71	-14	-12	-11	-74	-18	-16	-15	-73	-17	-15	-14	-73	-16	-14	-13	3	3	3	3
40,000	-56.5	-54	3	5	6	-54	3	5	7	-49	7	9	10	-54	3	4	5	-53	4	6	7	3	4	2	2
30,000	-44.5	-39	5	7	8	-35	9	11	12	-28	17	18	19	-34	10	12	13	-34	10	13	15	2	2	2	2
20,000	-21.2	-12	9	11	12	-10	11	13	14	-4	17	19	19	-8	13	14	15	-8	13	15	16	2	2	2	2
10,000	- 4.6	4	9	[illegible]	12	7	11	13	14	14	19	20	21	8	13	14	15	8	13	15	17	3	2	2	2
ADEN TO GAN																						1847 N.MI.			
53,000	-56.5	-80	-24	-22	-21	-78	-22	-19	-18	-77	-20	-19	-18	-79	-23	-21	-20	-79	-22	-20	-19	3	3	3	3
40,000	-56.5	-55	2	4	5	-52	5	7	8	-53	3	5	5	-53	4	5	6	-53	3	6	7	3	3	2	2
30,000	-44.5	-31	14	15	16	-30	15	16	17	-30	14	15	16	-31	13	14	15	-31	14	15	16	2	2	2	2
20,000	-21.2	-5	17	18	18	-5	16	17	18	-5	17	18	18	-6	16	17	17	-5	16	17	18	1	2	2	1
10,000	- 4.6	10	14	15	16	10	15	16	16	11	15	16	17	9	14	15	16	10	15	16	16	1	1	2	1
ADEN TO JIUDA																						618 N.MI.			
53,000	-56.5	-76	-19	-18	-17	-76	-20	-18	-16	-76	-19	-17	-16	-77	-20	-18	-17	-76	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	4	6	7	-51	6	7	8	-53	4	5	6	-52	4	6	7	2	3	2	2
30,000	-44.5	-35	9	11	12	-32	12	14	15	-28	16	17	18	-32	13	14	15	-32	13	15	16	2	2	2	2
20,000	-21.2	-8	13	15	15	-7	14	16	16	-4	17	18	19	-6	15	16	17	-6	15	17	18	2	2	2	2
10,000	- 4.6	9	13	14	15	10	14	16	16	15	19	21	21	9	14	15	16	11	15	17	18	2	2	2	2
ADEN TO KARACHI																						1446 N.MI.			
53,000	-56.5	-75	-19	-17	-15	-76	-19	-17	-16	-76	-19	-17	-16	-77	-20	-18	-17	-76	-19	-17	-16	3	4	3	3
40,000	-56.5	-54	2	5	6	-52	5	7	8	-49	7	9	10	-53	3	5	6	-52	4	7	8	3	4	3	3
30,000	-44.5	-34	10	12	14	-33	12	14	15	-27	17	19	19	-32	13	15	16	-32	13	15	17	3	3	2	3
20,000	-21.2	-9	13	14	15	-6	15	17	17	-4	17	19	20	-6	15	16	17	-6	15	17	18	2	2	2	2
10,000	- 4.6	8	12	14	15	10	15	16	17	15	20	21	22	9	13	15	16	11	15	17	18	2	2	2	2
ADEN TO KHARTOUM																						744 N.MI.			
53,000	-56.5	-77	-21	-19	-18	-78	-21	-19	-18	-76	-20	-18	-17	-77	-21	-19	-18	-77	-21	-19	-18	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-52	5	6	7	-52	4	5	6	-52	4	6	6	2	3	2	2
30,000	-44.5	-34	11	12	13	-31	13	15	15	-29	15	16	17	-31	13	15	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-6	15	16	17	-6	15	16	17	-4	17	18	19	-6	15	16	17	-6	16	17	18	2	2	2	1
10,000	- 4.6	10	15	16	17	10	15	16	17	14	18	19	20	10	14	15	16	11	16	17	18	2	2	2	2
ADEN TO MAURITIUS																						2131 N.MI.			
53,000	-56.5	-78	-22	-19	-18	-77	-21	-18	-17	-74	-17	-15	-14	-77	-20	-18	-17	-76	-20	-17	-16	3	4	3	3
40,000	-56.5	-53	3	5	6	-52	5	6	7	-53	4	5	6	-53	4	5	6	-53	4	6	7	2	3	2	2
30,000	-44.5	-30	14	15	16	-31	14	15	16	-32	13	14	15	-32	12	14	15	-31	13	15	15	2	2	2	2
20,000	-21.2	-4	17	17	18	-6	16	17	17	-5	16	17	18	-6	15	16	17	-5	16	17	17	1	1	2	2
10,000	- 4.6	10	14	15	15	10	14	15	16	9	14	15	15	9	14	15	15	9	14	15	16	1	1	2	2
ADEN TO NAIROBI																						976 N.MI.			
53,000	-56.5	-79	-22	-20	-19	-78	-22	-19	-18	-76	-19	-18	-17	-78	-21	-20	-19	-78	-21	-19	-18	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-53	4	5	6	-52	4	6	6	-53	4	6	7	2	3	2	2
30,000	-44.5	-31	13	14	15	-30	15	16	17	-31	14	15	16	-30	14	15	16	-31	14	15	16	2	2	2	2
20,000	-21.2	-4	17	18	19	-5	17	18	18	-5	16	17	18	-6	16	17	17	-5	16	18	18	1	2	1	1
10,000	- 4.6	10	15	16	16	10	15	16	16	11	16	17	17	10	14	15	16	10	15	16	17	1	1	1	1
ADEN TO NICOSIA																						1483 N.MI.			
53,000	-56.5	-71	-14	-12	-11	-70	-13	-11	-10	-74	-17	-15	-14	-72	-16	-14	-13	-72	-15	-13	-11	3	3	3	3
40,000	-56.5	-54	2	5	6	-54	3	5	7	-49	8	10	10	-54	3	4	5	-52	4	6	8	3	4	2	2
30,000	-44.5	-40	5	6	7	-36	8	10	11	-27	17	19	19	-35	10	12	13	-35	10	13	14	3	3	2	2
20,000	-21.2	-13	8	10	11	-11	10	12	13	-4	17	19	20	-8	13	14	15	-9	12	15	16	2	3	2	2
10,000	- 4.6	3	8	10	11	6	11	12	13	15	19	20	21	8	13	14	15	8	13	15	17	3	3	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
ALGIERS TO TRIPOLI																									2116 N.MI.
55,000	-56.5	-71	-15	-13	-12	-70	-14	-12	-11	-74	-17	-15	-14	-73	-16	-14	-13	-72	-15	-13	-12	3	3	3	3
40,000	-56.5	-54	3	5	6	-54	3	5	7	-49	7	9	9	-54	3	4	5	-55	4	6	7	3	4	2	2
30,000	-44.5	-40	4	6	7	-36	9	10	11	-29	16	17	18	-35	10	11	12	-35	10	12	14	2	2	2	2
20,000	-21.2	-13	9	10	11	-10	11	13	13	-4	17	18	19	-8	13	14	15	-9	12	14	16	3	2	2	2
10,000	- 4.6	4	8	10	11	6	11	13	14	14	18	19	20	8	13	14	15	8	13	15	16	3	3	2	2
ALGIERS TO ATHENS																									980 N.MI.
55,000	-56.5	-59	-2	1	2	-58	-1	1	2	-63	-6	-4	-3	-62	-5	-3	-2	-60	-4	-1	1	4	4	3	3
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-49	7	9	10	-56	0	2	4	-55	2	5	7	5	5	3	3
30,000	-44.5	-48	-3	-1	0	-45	-0	2	3	-35	9	11	12	-41	4	6	7	-42	2	6	8	3	3	3	3
20,000	-21.2	-22	-1	2	3	-18	3	5	7	-9	12	14	15	-14	7	9	10	-16	5	8	10	4	3	3	3
10,000	- 4.6	-6	-1	2	3	-1	4	6	8	8	13	15	16	2	6	8	10	1	6	9	11	4	4	3	3
ALGIERS TO BANGKOK																									5250 N.MI.
55,000	-56.5	-65	-8	-5	-4	-63	-6	-4	-3	-68	-12	-9	-8	-66	-10	-7	-6	-66	-9	-6	-4	4	4	4	4
40,000	-56.5	-56	1	4	5	-55	2	5	7	-48	8	11	12	-55	1	4	5	-55	3	7	8	4	5	4	4
30,000	-44.5	-43	1	4	5	-40	4	7	8	-30	15	17	18	-37	7	9	11	-38	7	10	13	4	4	3	4
20,000	-21.2	-18	3	5	7	-14	7	10	11	-5	16	18	19	-11	10	12	13	-12	9	12	14	4	4	3	3
10,000	- 4.6	-2	2	5	6	3	8	10	11	11	16	17	18	5	9	11	12	4	9	12	13	4	3	2	3
ALGIERS TO BARCELONA																									281 N.MI.
55,000	-56.5	-59	-3	1	2	-58	-1	1	3	-61	-4	-2	-1	-62	-5	-3	-2	-60	-3	-0	1	5	4	3	3
40,000	-56.5	-58	-1	3	5	-57	-1	3	5	-52	5	7	8	-56	0	3	4	-56	1	4	6	6	5	4	4
30,000	-44.5	-47	-3	-0	1	-45	-1	2	3	-37	8	10	11	-41	4	6	8	-42	2	5	7	3	4	3	4
20,000	-21.2	-21	-0	3	4	-18	3	5	7	-10	11	13	14	-14	7	9	10	-16	5	8	10	4	3	3	3
10,000	- 4.6	-4	0	3	5	-1	4	6	8	9	13	15	16	1	6	8	9	1	6	9	11	4	3	3	3
ALGIERS TO BASRA																									2236 N.MI.
55,000	-56.5	-61	-5	-2	-1	-60	-3	-1	0	-67	-10	-8	-7	-65	-7	-5	-5	-65	-6	-3	-2	4	3	3	3
40,000	-56.5	-56	1	4	6	-56	0	4	5	-48	9	11	12	-56	0	3	4	-54	3	6	8	5	5	3	3
30,000	-44.5	-47	-2	-0	1	-44	1	3	4	-31	13	15	17	-40	5	7	8	-40	4	8	10	3	3	3	3
20,000	-21.2	-21	0	3	4	-17	4	6	8	-6	15	17	18	-13	8	10	11	-14	7	10	12	4	3	3	3
10,000	- 4.6	-5	-0	2	4	0	5	7	9	10	15	17	18	4	8	10	11	2	7	10	12	4	4	2	3
ALGIERS TO BEIRUT																									1583 N.MI.
55,000	-56.5	-60	-4	-1	1	-59	-2	0	1	-65	-9	-7	-6	-63	-6	-4	-3	-62	-5	-2	-1	4	3	3	3
40,000	-56.5	-56	0	4	5	-57	-0	3	5	-48	8	10	11	-56	0	2	4	-54	2	5	7	5	5	3	3
30,000	-44.5	-47	-3	-1	0	-44	0	2	3	-33	12	14	15	-41	4	6	7	-41	3	7	9	3	3	3	3
20,000	-21.2	-22	-0	2	4	-18	4	6	7	-8	13	15	16	-14	7	9	10	-15	6	9	11	4	3	3	3
10,000	- 4.6	-5	-1	2	3	-0	4	7	8	9	14	15	16	3	8	9	11	2	6	9	11	4	4	3	3
ALGIERS TO BENGHAZI																									887 N.MI.
55,000	-56.5	-61	-5	-2	-1	-60	-3	-1	0	-66	-9	-7	-6	-63	-7	-5	-4	-62	-6	-3	-2	4	3	3	3
40,000	-56.5	-56	0	4	6	-56	0	3	5	-49	7	9	10	-56	0	3	4	-54	2	5	7	5	5	3	3
30,000	-44.5	-46	-2	0	1	-44	1	3	4	-34	11	13	14	-40	4	6	8	-41	4	7	9	3	3	3	3
20,000	-21.2	-20	1	4	5	-16	5	7	8	-8	13	15	16	-13	8	10	11	-14	7	10	11	4	3	2	2
10,000	- 4.6	-4	1	3	5	1	5	8	9	10	15	16	17	3	8	10	11	3	7	10	12	4	3	2	3
ALGIERS TO BOMBAY																									3761 N.MI.
55,000	-56.5	-65	-8	-6	-5	-64	-8	-5	-4	-70	-13	-11	-10	-67	-11	-8	-7	-66	-10	-7	-6	4	3	3	4
40,000	-56.5	-55	1	4	6	-55	2	5	7	-47	9	11	12	-55	1	4	5	-55	3	7	9	4	5	3	4
30,000	-44.5	-43	1	4	5	-41	4	6	8	-29	15	17	18	-37	7	9	10	-38	7	11	13	4	3	3	3
20,000	-21.2	-18	3	6	7	-14	7	9	11	-5	16	18	19	-11	10	12	13	-12	9	13	14	3	3	3	3
10,000	- 4.6	-2	3	5	7	4	8	10	12	12	17	19	19	5	10	12	13	5	10	13	14	3	3	2	3
ALGIERS TO CAIRO																									1459 N.MI.
55,000	-56.5	-62	-5	-3	-2	-60	-4	-2	-0	-67	-10	-8	-7	-64	-8	-5	-4	-63	-7	-4	-3	4	3	3	3
40,000	-56.5	-56	1	4	6	-56	0	3	5	-49	8	10	11	-56	1	3	4	-54	2	5	7	5	5	3	3
30,000	-44.5	-46	-2	0	1	-43	1	3	5	-32	12	15	16	-40	5	7	8	-40	4	8	10	3	3	3	1
20,000	-21.2	-20	1	4	5	-16	5	7	8	-7	14	16	17	-13	8	10	11	-14	7	10	12	4	3	2	2
10,000	- 4.6	-4	1	3	5	1	5	8	9	10	15	16	17	4	9	10	11	3	7	10	12	4	3	2	3
ALGIERS TO CALCUTTA																									4582 N.MI.
55,000	-56.5	-62	-5	-3	-1	-60	-4	-1	-0	-66	-10	-7	-6	-64	-8	-5	-4	-63	-7	-4	-2	4	4	4	4
40,000	-56.5	-56	1	4	6	-55	1	5	7	-48	9	11	13	-55	1	4	5	-55	3	7	9	5	5	4	4
30,000	-44.5	-46	-1	2	3	-42	2	5	6	-30	14	17	18	-37	6	8	10	-39	5	9	12	4	4	4	4
20,000	-21.2	-21	1	3	5	-16	6	8	10	-5	16	18	19	-11	9	11	12	-16	8	11	13	4	4	3	3
10,000	- 4.6	-4	0	3	4	2	6	9	10	11	16	17	18	4	8	11	12	3	8	11	13	4	4	3	3
ALGIERS TO CASABLANCA																									566 N.MI.
55,000	-56.5	-61	-5	-2	0	-60	-3	-1	1	-64	-8	-5	-4	-63	-7	-5	-3	-62	-6	-3	-1	5	4	3	3
40,000	-56.5	-57	-1	3	5	-57	-0	3	5	-51	5	7	8	-56	0	3	4	-55	1	4	6	5	5	3	3
30,000	-44.5	-46	-1	1	2	-44	1	3	4	-36	9	11	12	-40	5	7	8	-41	3	6	8	3	1	3	3
20,000	-21.2	-19	2	5	6	-16	5	7	8	-9	12	14	15	-13	8	10	11	-14	7	10	11	4	3	2	3
10,000	- 4.6	-2	2	5	6	1	6	8	9	10	15	17	18	3	8	10	11	3	8	11	13	4	3	2	3
ALGIERS TO COLOMBO																									4515 N.MI.
55,000	-56.5	-70	-13	-11	-10	-68	-12	-10	-8	-72	-16	-11	-12	-71	-15	-13	-12	-70	-14	-11	-10	3	3	3	3
40,000	-56.5	-55	2	4	6	-54	3	5	7	-49	8	10	11	-55	2	4	5	-55	3	6	8	4	4	3	3
30,000	-44.5	-40	5	7	8	-37	7	9	10	-29	16	17	18	-36	9	11	12	-35	9	12	14	3	3	3	3
20,000	-21.2	-14	7	9	10	-11	10	12	13	-5	15	18	19	-9	12	13	14	-10	11	14	15	3	3	2	2
10,000	- 4.6	2	7	9	10	5	10	12	13	12	17	18	19	7	11	13	14	7	11	14	15	3	3	2	2
ALGIERS TO DAMASCUS																									1624 N.MI.
55,000	-56.5	-60	-4	-1	0	-59	-2	-0	1	-65	-9	-7	-6	-63	-6	-4	-3	-62	-5	-2	-1	4	3	3	3
40,000	-56.5	-56	0	4	5	-57	-0	3	5	-48	8	10	11	-56	0	2	4	-54	2	5	7	5	5	3	3
30,000	-44.5	-47	-3	-1	1	-44	0	2	3	-33	12	14	15	-40	4	6	7	-41	3	7	9	3	3	3	3
20,000	-21.2	-21	-0	2	4	-18	4	6	7	-8	14	15	16	-14	7	9	10	-15	6	9	11	4	3	3	3
10,000	- 4.6	-5	-1	2	3	-0	4	7	8	9	14	15	16	3	8	10	11	2	6	9	11	4	4	3	3
ALGIERS TO DHAHRAN																									2457 N.MI.
55,000	-56.5	-63	-7	-4	-3	-62	-5	-3	-2	-68	-12	-10	-9	-65	-9	-7	-5	-65	-8	-5	-4	4	3	3	3
40,000	-56.5	-55	1	4	6	-56	1	4	6	-48	9	11	12	-56	1	3	4	-54	3	6	8	4	5	3	3
30,000	-44.5	-45	-1	1	2	-42	2	4	6	-30	14	16	17	-39	6	8	9	-39	5	9	11	3	3	3	3
20,000	-21.2	-19	2	4	6	-16	5	8	9	-6	16	17	18	-12	9	11	11	-13	8	11	13	4	3	3	2
10,000	- 4.6	-3	1	4	5	1	6	8	10	12	16	18	19	5	9	11	12	4	8	11	13	4	3	2	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
ALGIERS TO KANO																						1506 N.MI.			
55,000	-56.5	-70	-13	-11	-10	-68	-12	-10	-9	-72	-16	-14	-13	-71	-15	-13	-12	-70	-14	-11	-10	3	3	3	3
40,000	-56.5	-55	2	4	6	-54	3	6	7	-51	5	7	7	-54	3	4	5	-53	3	5	6	4	4	2	2
30,000	-44.5	-41	3	5	5	-37	8	9	10	-32	13	14	15	-36	9	10	11	-36	8	11	12	2	2	2	2
20,000	-21.2	-14	7	9	10	-11	10	11	12	-6	15	16	17	-9	12	13	14	-10	11	13	14	3	2	2	2
10,000	- 4.6	3	7	9	10	6	11	12	13	13	18	19	20	7	12	13	14	7	12	14	16	2	2	2	2
ALGIERS TO KARACHI																						3310 N.MI.			
55,000	-56.5	-63	-6	-4	-2	-62	-5	-3	-1	-68	-12	-9	-8	-65	-9	-6	-5	-64	-8	-5	-3	4	3	3	4
40,000	-56.5	-55	1	4	6	-55	1	5	6	-47	9	11	12	-56	1	3	5	-53	3	7	8	5	5	3	3
30,000	-44.5	-45	-1	2	3	-42	2	5	6	-30	15	17	18	-39	6	8	9	-39	6	9	12	4	4	3	3
20,000	-21.2	-20	1	4	5	-15	6	8	9	-5	16	18	19	-12	9	11	12	-13	8	12	13	4	3	3	3
10,000	- 4.6	-4	1	4	5	2	7	9	10	12	17	18	19	5	9	11	12	4	8	12	14	4	4	3	3
ALGIERS TO LISBON																						598 N.MI.			
55,000	-56.5	-60	-4	-0	2	-59	-2	1	2	-62	-5	-3	-2	-62	-6	-3	-2	-61	-4	-1	1	5	4	3	3
40,000	-56.5	-58	-1	3	5	-57	-1	3	5	-52	4	7	8	-56	0	3	4	-58	1	4	5	6	5	4	4
30,000	-44.5	-46	-2	0	1	-44	0	2	4	-36	8	10	11	-40	4	6	8	-42	3	6	7	3	3	3	4
20,000	-21.2	-20	1	4	5	-17	4	6	7	-10	11	13	14	-14	8	10	11	-15	6	9	10	4	3	3	3
10,000	- 4.6	-3	1	4	6	-0	5	7	8	9	14	16	17	2	7	9	10	2	7	10	12	4	3	3	3
ALGIERS TO LONDON																						900 N.MI.			
55,000	-56.5	-58	-2	2	3	-56	0	3	5	-56	0	3	4	-60	-3	-1	0	-58	-1	2	4	5	4	4	4
40,000	-56.5	-58	-1	3	5	-57	-1	3	5	-52	4	7	9	-56	0	3	4	-56	0	4	6	6	6	4	4
30,000	-44.5	-48	-4	-1	0	-46	-2	1	2	-38	6	9	10	-42	2	5	6	-44	1	4	6	4	4	3	4
20,000	-21.2	-23	-2	1	3	-20	1	4	5	-12	9	11	13	-16	5	8	9	-18	4	[illegible]	8	5	4	3	4
10,000	- 4.6	-6	-2	1	3	-3	2	4	6	5	10	12	13	-0	4	7	8	-1	4	7	9	5	4	3	4
ALGIERS TO MADRID																						590 N.MI.			
55,000	-56.5	-60	-3	0	2	-58	-2	1	3	-61	-5	-2	-1	-62	-5	-3	-2	-60	-4	-1	1	5	4	3	3
40,000	-56.5	-58	-1	3	5	-57	-1	3	4	-52	4	7	8	-56	0	3	4	-56	1	4	6	6	5	4	4
30,000	-44.5	-47	-2	0	1	-45	-0	2	3	-36	8	10	11	-41	4	6	8	-42	2	6	7	3	3	3	4
20,000	-21.2	-21	1	3	5	-18	3	6	7	-10	11	13	14	-14	7	9	10	-16	6	9	10	4	3	3	3
10,000	- 4.6	-4	1	4	5	-3	4	7	8	9	14	16	17	2	6	8	10	2	6	10	11	4	3	3	3
ALGIERS TO MARSEILLES																						413 N.MI.			
55,000	-56.5	-59	-2	1	3	-57	-1	2	3	-60	-3	-1	0	-61	-5	-2	-1	-59	-3	0	2	5	4	3	3
40,000	-56.5	-58	-1	3	5	-57	-1	3	4	-52	4	7	8	-56	0	3	4	-56	1	4	6	6	5	4	4
30,000	-44.5	-47	-3	-1	1	-45	-1	2	3	-37	8	10	11	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-22	-1	2	4	-19	3	5	6	-10	11	13	14	-15	7	9	10	-16	5	8	10	4	3	3	3
10,000	- 4.6	-5	-0	3	4	-1	3	6	7	8	12	14	16	1	6	8	9	1	5	9	11	4	4	3	3
ALGIERS TO MILAN																						590 N.MI.			
55,000	-56.5	-58	-1	2	4	-57	-0	2	4	-59	-2	0	1	-61	-4	-2	-1	-59	-2	1	3	5	4	3	3
40,000	-56.5	-58	-1	3	5	-58	-1	3	4	-52	4	7	8	-56	0	3	4	-56	1	4	6	6	5	4	4
30,000	-44.5	-48	-4	-1	0	-46	-1	1	3	-37	7	9	11	-42	3	6	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-23	-2	1	3	-19	2	4	6	-11	11	12	13	-15	6	8	10	-17	4	7	9	5	3	3	3
10,000	- 4.6	-6	-1	2	4	-2	3	5	6	7	12	14	15	1	5	7	9	-0	5	8	10	5	4	3	3
ALGIERS TO NEW DELHI																						3675 N.MI.			
55,000	-56.5	-60	-4	-1	1	-59	-3	-0	1	-65	-8	-6	-5	-63	-6	-4	-2	-62	-5	-2	-1	4	4	4	4
40,000	-56.5	-56	1	4	6	-56	1	4	6	-48	9	11	13	-56	1	3	5	-54	3	7	9	5	5	4	4
30,000	-44.5	-47	-2	0	1	-43	1	4	5	-31	14	16	17	-40	5	7	8	-40	4	8	11	4	4	4	4
20,000	-21.2	-22	-1	2	3	-17	5	7	9	-6	15	17	18	-14	8	10	11	-15	7	10	12	4	4	3	3
10,000	- 4.6	-6	-1	2	3	1	5	8	9	11	15	17	18	3	8	10	11	2	7	10	12	4	4	3	3
ALGIERS TO PARIS																						737 N.MI.			
55,000	-56.5	-58	-2	2	3	-57	-0	3	4	-57	-1	2	3	-60	-4	-1	-0	-58	-2	1	3	5	4	4	4
40,000	-56.5	-58	-1	3	5	-57	-1	3	5	-53	4	7	8	-56	0	3	4	-56	0	4	5	6	6	4	4
30,000	-44.5	-48	-4	-1	0	-46	-1	1	3	-38	7	9	10	-42	3	5	7	-43	1	4	6	4	4	3	4
20,000	-21.2	-23	-2	1	3	-20	2	4	6	-11	10	12	13	-16	6	8	9	-17	4	7	9	5	4	3	4
10,000	- 4.6	-6	-1	2	3	-3	2	5	6	6	11	13	14	0	5	7	9	-1	4	7	9	5	4	3	4
ALGIERS TO ROME																						552 N.MI.			
55,000	-56.5	-58	-2	2	3	-58	-1	2	3	-61	-4	-2	-1	-61	-5	-3	-1	-59	-3	0	2	5	4	3	3
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-51	6	8	9	-58	0	3	4	-55	1	4	6	5	5	3	4
30,000	-44.5	-48	-3	-1	0	-45	-1	2	3	-37	8	10	11	-41	3	6	7	-43	2	5	7	3	4	3	4
20,000	-21.2	-22	-1	2	3	-18	3	5	6	-10	11	13	14	-15	7	9	10	-16	5	8	10	4	3	3	3
10,000	- 4.6	-5	-1	2	4	-1	3	6	7	8	13	15	16	1	6	8	9	1	5	9	11	4	4	3	3
ALGIERS TO TRIPOLI																						546 N.MI.			
55,000	-56.5	-61	-5	-2	-0	-60	-3	-1	0	-65	-9	-6	-5	-63	-7	-5	-3	-62	-6	-3	-1	4	3	3	3
40,000	-56.5	-56	0	4	5	-56	0	4	5	-50	7	9	10	-56	0	3	4	-55	2	5	6	5	5	3	3
30,000	-44.5	-46	-2	0	1	-44	1	3	4	-35	10	12	13	-40	4	6	8	-41	3	7	8	3	3	3	3
20,000	-21.2	-20	1	4	5	-16	5	7	8	-8	13	15	15	-13	8	10	11	-14	7	10	11	4	3	2	3
10,000	- 4.6	-3	1	4	5	1	6	8	9	10	15	17	18	3	8	10	10	3	7	11	12	4	3	3	3
ALGIERS TO TEL AVIV-JAFFA																						1587 N.MI.			
55,000	-56.5	-61	-4	-2	-0	-59	-3	-1	1	-66	-10	-8	-6	-63	-7	-4	-3	-62	-6	-3	-2	4	3	3	3
40,000	-56.5	-56	1	4	6	-57	-0	3	5	-48	8	10	11	-56	0	2	4	-54	2	5	7	5	5	3	3
30,000	-44.5	-47	-2	-0	1	-44	1	3	4	-32	12	14	15	-40	4	6	8	-41	4	7	9	3	3	3	3
20,000	-21.2	-21	0	3	4	-17	4	6	8	-7	14	16	17	-13	8	9	10	-15	7	10	11	4	3	2	2
10,000	- 4.6	-5	-0	2	4	0	5	7	8	10	14	16	17	3	8	10	11	2	7	10	12	4	4	2	3
ALGIERS TO TUNIS																						337 N.MI.			
55,000	-56.5	-60	-3	-0	2	-59	-2	0	2	-63	-6	-4	-3	-62	-6	-4	-2	-61	-4	-1	0	5	4	3	3
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-50	6	8	9	-56	0	2	4	-55	1	5	6	5	5	3	3
30,000	-44.5	-47	-2	-0	1	-45	-0	2	3	-36	9	11	12	-41	4	6	7	-42	3	6	8	3	3	3	3
20,000	-21.2	-21	0	3	5	-17	4	6	7	-9	12	14	15	-14	7	9	10	-15	6	9	10	4	3	2	3
10,000	- 4.6	-4	1	3	5	0	5	7	8	9	14	16	17	2	7	9	10	2	7	10	12	4	3	3	3
ALICE SPRINGS TO MELBOURNE																						1009 N.MI.			
55,000	-56.5	-68	-12	-9	-8	-66	-10	-7	-6	-63	-7	-4	-2	-63	-6	-4	-3	-65	-9	-6	-4	4	4	4	3
40,000	-56.5	-54	3	5	6	-55	1	3	5	-54	3	5	6	-53	4	7	8	-54	2	6	7	4	4	4	4
30,000	-44.5	-37	8	10	11	-40	4	6	7	-43	2	4	5	-42	3	5	6	-40	4	7	8	3	3	4	3
20,000	-21.2	-10	11	13	14	-14	7	9	10	-19	2	5	6	-16	5	7	8	-15	6	9	11	3	3	3	3
10,000	- 4.6	7	11	13	14	2	6	8	9	-3	2	4	5	1	5	8	9	2	6	9	11	3	3	3	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
ALLAHABAD TO CALCUTTA																									404 N.MI.
55,000	-56.5	-73	-16	-14	-13	-69	-12	-10	-8	-75	-19	-15	-14	-73	-17	-14	-12	-72	-16	-12	-11	4	4	5	4
40,000	-56.5	-55	1	4	6	-53	4	7	9	-49	7	11	13	-54	3	6	8	-53	4	8	10	4	5	5	5
30,000	-44.5	-37	8	11	12	-35	9	12	14	-26	18	20	21	-32	12	15	16	-33	12	15	17	5	5	3	4
20,000	-21.2	-11	10	12	13	-9	12	14	16	-2	19	21	21	-6	15	17	18	-7	14	17	18	3	4	2	3
10,000	- 4.6	5	9	11	12	8	13	15	16	12	17	18	19	8	12	14	15	8	13	15	16	3	3	2	3
AMMAN TO BAGHDAD																									431 N.MI.
55,000	-56.5	-63	-7	-5	-3	-62	-5	-3	-2	-71	-14	-12	-11	-66	-9	-7	-5	-65	-9	-6	-5	4	3	3	4
40,000	-56.5	-55	2	5	6	-55	2	5	7	-46	10	12	13	-55	1	3	4	-53	4	7	9	4	5	3	3
30,000	-44.5	-46	-1	1	2	-42	2	5	6	-27	18	20	21	-39	6	8	9	-38	6	10	13	3	3	3	3
20,000	-21.2	-19	2	4	5	-16	5	7	9	-3	18	20	21	-12	9	11	12	-13	9	12	14	3	3	3	3
10,000	- 4.6	-4	1	3	5	2	6	9	10	14	18	20	21	6	10	12	13	4	9	12	14	4	4	2	3
AMMAN TO ROME																									1262 N.MI.
55,000	-56.5	-59	-3	0	2	-58	-2	1	2	-64	-8	-6	-4	-62	-6	-3	-2	-61	-4	-2	-0	4	3	3	3
40,000	-56.5	-56	0	4	5	-57	-0	3	5	-48	9	11	12	-56	0	2	4	-54	2	6	7	5	5	3	3
30,000	-44.5	-48	-4	-2	-0	-45	-0	2	3	-33	12	14	15	-41	4	6	7	-42	3	7	9	3	3	3	3
20,000	-21.2	-23	-1	1	3	-18	3	5	7	-8	13	15	16	-14	7	9	10	-16	5	9	11	4	4	3	3
10,000	- 4.6	-7	-2	1	2	-2	3	6	7	8	13	15	15	3	7	9	10	1	5	9	10	4	4	3	3
AMSTERDAM TO ANCHORAGE																									3885 N.MI.
55,000	-56.5	-60	-3	0	2	-48	8	11	13	-44	13	14	15	-53	4	6	7	-51	5	8	10	5	4	2	3
40,000	-56.5	-58	-2	2	4	-49	7	11	13	-46	11	14	16	-52	4	7	9	-51	5	9	12	6	5	5	4
30,000	-44.5	-56	-12	-9	-8	-52	-8	-5	-3	-45	-1	2	3	-51	-7	-4	-3	-51	-7	-3	-1	4	4	3	4
20,000	-21.2	-35	-14	-10	-9	-33	-12	-9	-7	-20	1	3	4	-29	-8	-5	-3	-30	-8	-4	-2	5	5	4	5
10,000	- 4.6	-21	-16	-12	-10	-18	-13	-10	-8	-5	-0	2	3	-14	-10	-7	-5	-15	-10	-6	-3	6	5	3	5
AMSTERDAM TO ANKARA																									1567 N.MI.
55,000	-56.5	-56	0	4	5	-54	2	4	6	-53	4	6	7	-58	-2	1	2	-55	1	4	5	5	4	1	4
40,000	-56.5	-58	-1	2	4	-56	1	4	6	-50	7	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-47	-3	-0	1	-39	6	8	10	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	4	-12	9	11	12	-17	4	7	8	-20	2	5	7	5	5	3	4
10,000	- 4.6	-12	-7	-4	-2	-6	-1	2	4	3	7	10	11	-2	3	6	7	-4	1	4	6	5	5	3	4
AMSTERDAM TO ATHENS																									1173 N.MI.
55,000	-56.5	-56	0	3	5	-55	1	4	5	-55	2	4	5	-59	-3	-0	1	-56	0	3	4	5	4	3	4
40,000	-56.5	-58	-1	2	4	-57	-0	3	5	-50	6	9	10	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-38	6	9	10	-43	2	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	0	-21	0	3	4	-12	9	11	12	-17	4	7	8	-59	2	6	7	5	4	3	4
10,000	- 4.6	-10	-6	-2	-0	-5	-0	3	4	4	8	10	12	-1	3	6	8	-3	1	5	7	5	4	3	4
AMSTERDAM TO BAGHDAD																									2044 N.MI.
55,000	-56.5	-57	-1	2	4	-56	1	3	5	-57	-0	2	3	-59	-3	-0	1	-57	-1	2	3	4	3	3	4
40,000	-56.5	-57	-1	3	4	-56	1	4	6	-49	8	10	12	-56	0	3	4	-54	2	6	8	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-46	-2	1	2	-36	9	11	12	-42	2	4	6	-44	1	5	7	4	4	4	4
20,000	-21.2	-26	-4	-1	1	-21	1	4	5	-10	11	13	14	-16	5	7	9	-18	3	7	9	5	4	3	4
10,000	- 4.6	-10	-6	-2	-1	-4	1	4	5	5	10	12	13	-0	4	7	9	-2	2	6	8	5	4	3	4
AMSTERDAM TO BARCELONA																									670 N.MI.
55,000	-56.5	-57	-1	2	4	-55	1	4	6	-54	3	5	7	-59	-2	0	1	-56	0	3	5	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	6	-53	4	7	9	-56	0	3	5	-56	0	4	6	6	6	5	5
30,000	-44.5	-49	-5	-2	-1	-47	-2	0	2	-39	5	8	9	-41	2	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-25	-4	-0	2	-21	0	1	5	-13	9	11	12	-17	4	7	9	-19	2	6	8	5	4	3	4
10,000	- 4.6	-8	-4	-0	2	-4	0	3	4	4	8	10	12	-1	3	6	8	-3	2	6	7	5	4	3	4
AMSTERDAM TO BASLE																									303 N.MI.
55,000	-56.5	-57	-0	3	5	-54	2	5	6	-51	5	8	9	-58	-1	1	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	0	5	7	-52	5	8	10	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	1	-40	4	7	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-14	7	10	11	-18	3	6	8	-20	1	5	7	6	4	3	5
10,000	- 4.6	-10	-6	-2	0	-6	-1	1	3	2	7	9	10	-2	2	5	7	-4	0	4	6	6	4	3	5
AMSTERDAM TO BEIRUT																									1721 N.MI.
55,000	-56.5	-57	-1	2	4	-56	1	3	5	-57	-0	2	3	-60	-3	-1	1	-57	-1	2	3	4	4	3	4
40,000	-56.5	-57	-1	3	4	-56	0	4	6	-49	7	10	11	-56	0	3	4	-55	2	6	7	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-47	-2	0	2	-36	8	10	12	-42	2	4	6	-44	1	4	6	4	4	4	4
20,000	-21.2	-25	-4	-1	1	-21	0	3	5	-11	10	12	13	-16	5	7	9	-18	3	6	8	5	4	3	4
10,000	- 4.6	-10	-5	-2	-1	-4	0	3	5	5	9	11	12	-0	4	7	8	-3	2	6	7	5	4	3	4
AMSTERDAM TO BELEM																									4183 N.MI.
55,000	-56.5	-69	-12	-9	-8	-67	-11	-8	-7	-66	-9	-7	-6	-69	-13	-11	-9	-68	-11	-9	-7	4	3	3	3
40,000	-56.5	-57	-0	3	4	-56	0	4	5	-54	3	5	6	-55	2	4	5	-55	1	4	5	4	5	3	3
30,000	-44.5	-41	4	6	7	-38	6	8	9	-35	9	11	12	-36	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	10	-11	9	10	12	-9	12	14	14	-10	11	13	14	-11	10	12	13	3	3	2	3
10,000	- 4.6	2	7	9	10	3	8	9	10	7	12	13	14	5	10	12	13	4	9	11	12	3	3	2	2
AMSTERDAM TO BERLIN																									515 N.MI.
55,000	-56.5	-57	-0	1	5	-53	3	6	7	-49	7	9	11	-57	-1	2	3	-54	2	6	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	2	6	8	-51	6	9	11	-56	0	4	5	-55	1	6	8	6	6	5	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-41	3	6	7	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-15	7	9	10	-19	2	6	7	-21	0	4	6	6	5	3	5
10,000	- 4.6	-12	-7	-4	-1	-7	-3	0	2	1	6	8	9	-4	0	4	5	-6	-1	3	4	6	5	3	5
AMSTERDAM TO BRUSSELS																									86 N.MI.
55,000	-56.5	-57	-0	3	5	-54	3	5	7	-50	6	9	10	-58	-1	2	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-55	1	6	8	-51	6	9	11	-56	0	4	5	-55	1	6	8	6	6	5	5
30,000	-44.5	-51	-6	-3	-2	-48	-3	-1	1	-41	4	6	8	-44	0	3	4	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	1	-23	-2	2	3	-14	7	9	10	-18	3	6	8	-21	1	4	6	6	5	3	5
10,000	- 4.6	-11	-6	-2	-0	-7	-2	1	3	1	6	8	9	-3	2	5	6	-5	-0	3	5	6	4	3	5
AMSTERDAM TO BUDAPEST																									629 N.MI.
55,000	-56.5	-56	0	4	5	-54	3	5	7	-50	6	8	10	-58	-1	1	3	-55	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	5	9	10	-56	0	3	5	-55	1	5	7	5	6	5	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-40	4	7	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-23	-1	2	3	-14	7	10	11	-18	3	6	8	-20	1	4	6	6	5	3	5
10,000	- 4.6	-12	-7	-4	-1	-7	-2	1	3	2	6	8	10	-3	2	5	7	-5	-0	3	5	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
AMSTERDAM TO CAIRO																						1773 N.MI.			
55,000	-56.5	-58	-2	1	3	-57	-0	2	3	-59	-2	-0	1	-61	-4	-2	-1	-59	-2	1	2	4	3	3	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-49	7	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-49	-5	-2	-1	-46	-1	1	2	-36	9	11	13	-42	3	5	6	-43	1	5	7	4	4	3	3
20,000	-21.2	-24	-3	0	2	-20	1	4	5	-10	11	13	14	-16	6	8	9	-17	4	7	9	5	4	3	3
10,000	-4.6	-8	-4	-1	1	-3	1	4	5	6	10	12	13	1	5	8	9	-1	3	7	8	4	4	3	4
AMSTERDAM TO COPENHAGEN																						361 N.MI.			
55,000	-56.5	-57	-1	3	4	-53	3	6	7	-48	8	10	11	-57	-1	2	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-58	-2	2	4	-54	2	7	9	-50	6	10	12	-56	0	4	6	-55	2	6	9	6	6	5	5
30,000	-44.5	-51	-7	-4	-3	-49	-4	-2	-0	-41	3	6	7	-45	-0	2	4	-47	-2	1	3	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-24	-3	0	2	-15	6	8	10	-19	2	5	7	-22	-1	3	5	6	5	3	5
10,000	-4.6	-12	-8	-4	-2	-8	-3	-0	2	0	5	7	8	-5	-1	3	4	-6	-2	2	4	6	5	3	5
AMSTERDAM TO DAKAR																						2493 N.MI.			
55,000	-56.5	-64	-8	-5	-4	-63	-6	-4	-3	-64	-8	-6	-4	-66	-10	-7	-6	-64	-8	-5	-4	4	4	3	3
40,000	-56.5	-57	-0	3	5	-56	0	4	6	-53	4	6	7	-55	1	3	5	-55	1	4	5	5	5	3	3
30,000	-44.5	-44	0	2	3	-41	3	5	6	-36	9	10	11	-39	6	8	9	-40	5	7	9	3	3	3	3
20,000	-21.2	-18	3	6	7	-15	6	8	9	-9	12	13	14	-12	9	11	12	-14	8	10	11	4	3	2	3
10,000	-4.6	-1	4	6	7	1	6	8	9	9	13	15	16	4	8	10	11	3	8	10	12	3	3	2	3
AMSTERDAM TO DHAHRAN																						2560 N.MI.			
55,000	-56.5	-59	-3	0	2	-58	-1	1	2	-60	-4	-2	-0	-62	-5	-3	-1	-60	-3	-0	1	4	3	3	4
40,000	-56.5	-56	0	3	5	-55	1	5	6	-48	8	11	12	-56	1	3	4	-54	3	6	8	5	5	4	4
30,000	-44.5	-49	-4	-2	-0	-45	-0	2	3	-34	11	13	14	-41	3	6	7	-42	2	6	8	4	4	3	3
20,000	-21.2	-24	-2	1	2	-19	2	5	6	-9	13	15	16	-15	6	9	10	-17	5	8	10	4	4	3	4
10,000	-4.6	-8	-4	-0	1	-2	2	5	7	7	12	14	15	1	6	8	10	-0	4	8	10	5	4	3	4
AMSTERDAM TO DUSSELDORF																						96 N.MI.			
55,000	-56.5	-57	-0	3	5	-54	3	5	7	-50	7	9	10	-58	-1	2	3	-54	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-55	1	6	8	-51	6	9	11	-56	0	4	5	-55	1	6	8	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	0	-41	4	6	8	-44	0	3	4	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-23	-2	1	3	-14	7	9	10	-19	3	6	8	-21	0	4	6	6	5	3	5
10,000	-4.6	-11	-6	-3	-1	-7	-2	1	2	1	6	8	9	-3	1	4	6	-5	-0	3	5	6	4	3	5
AMSTERDAM TO EDMONTON																						3739 N.MI.			
55,000	-56.5	-58	-1	3	5	-49	8	10	12	-46	11	13	14	-53	3	5	7	-51	5	8	10	6	4	3	4
40,000	-56.5	-56	0	4	7	-50	6	10	13	-47	9	12	14	-52	5	8	10	-51	5	9	11	6	6	5	5
30,000	-44.5	-55	-10	-7	-6	-50	-6	-3	-1	-45	-0	2	4	-49	-4	-1	0	-50	-5	-2	0	4	4	4	5
20,000	-21.2	-35	-14	-10	-8	-31	-9	-6	-4	-19	2	4	6	-26	-5	-1	1	-28	-7	-2	0	6	6	4	6
10,000	-4.6	-21	-16	-12	-10	-16	-11	-7	-5	-4	1	3	4	-12	-7	-3	-2	-13	-8	-4	-2	6	5	4	5
AMSTERDAM TO FRANKFURT																						197 N.MI.			
55,000	-56.5	-57	-0	3	5	-54	3	5	7	-50	6	9	10	-58	-1	2	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-55	1	5	7	-51	5	9	11	-56	0	3	5	-55	1	5	8	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	1	-41	4	6	8	-44	0	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-23	-1	2	3	-14	7	9	10	-18	3	6	8	-21	1	4	6	6	5	3	5
10,000	-4.6	-11	-6	-3	-1	-7	-2	1	3	1	6	8	9	-3	2	5	6	-5	-0	3	5	6	4	3	5
AMSTERDAM TO GENEVA																						369 N.MI.			
55,000	-56.5	-57	-0	3	5	-54	2	5	6	-52	5	7	9	-58	-2	1	2	-55	1	4	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	0	4	7	-52	5	8	10	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-40	4	7	8	-44	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-14	8	10	11	-18	4	7	8	-20	1	5	7	6	4	3	5
10,000	-4.6	-10	-5	-2	0	-6	-1	2	3	2	7	9	10	-2	3	5	7	-4	1	4	6	5	4	3	4
AMSTERDAM TO GLASGOW																						582 N.MI.			
55,000	-56.5	-58	-1	2	4	-53	4	6	7	-49	8	10	12	-57	-1	2	4	-54	2	6	8	5	4	4	4
40,000	-56.5	-58	-2	3	5	-54	2	7	10	-50	7	11	13	-56	1	4	6	-55	2	7	9	6	7	6	6
30,000	-44.5	-51	-6	-3	-2	-48	-3	-1	1	-42	3	6	7	-45	-0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-24	-2	1	[illegible]	-15	6	8	9	-19	2	5	7	-21	-0	4	5	6	5	3	5
10,000	-4.6	-10	-6	-2	-0	-7	-3	0	2	0	5	7	8	-4	1	4	6	-5	-1	3	4	5	4	3	5
AMSTERDAM TO GOOSE BAY																						2281 N.MI.			
55,000	-56.5	-57	-0	3	5	-52	5	8	9	-48	8	11	12	-55	2	5	6	-53	4	7	9	5	4	4	4
40,000	-56.5	-55	2	7	9	-52	4	9	11	-50	7	11	13	-53	3	7	9	-52	4	8	11	7	7	5	6
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	1	-43	2	5	6	-45	-1	2	3	-47	-2	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-1	-26	-4	-1	1	-16	5	8	9	-22	-1	3	5	-23	-2	2	4	7	6	4	6
10,000	-4.6	-14	-10	-6	-4	-10	-5	-2	-0	-1	3	6	7	-7	-2	2	3	-8	-3	0	2	6	5	3	5
AMSTERDAM TO HAMBURG																						204 N.MI.			
55,000	-56.5	-57	-0	3	5	-53	3	6	7	-49	7	10	11	-57	-1	2	3	-54	2	6	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	2	6	8	-51	6	10	12	-56	0	4	5	-55	2	6	8	6	6	5	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-41	3	6	7	-45	-0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-0	-23	-2	1	3	-15	6	9	10	-19	2	6	7	-21	-0	4	6	6	5	3	5
10,000	-4.6	-12	-7	-3	-1	-7	-3	0	2	1	5	8	9	-4	0	3	5	-6	-1	2	4	6	5	3	5
AMSTERDAM TO HELSINKI																						820 N.MI.			
55,000	-56.5	-57	-1	2	4	-53	4	6	8	-47	9	11	12	-56	0	3	4	-53	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	3	7	9	-50	7	10	12	-56	1	4	6	-55	2	6	9	6	6	5	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-42	3	5	7	-46	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-30	-9	-5	-2	-25	-4	-0	1	-16	6	8	9	-21	1	4	6	-23	-2	2	4	6	5	4	5
10,000	-4.6	-14	-10	-6	-4	-9	-5	-1	0	-0	4	7	8	-6	-1	2	4	-7	-3	1	3	6	5	3	5
AMSTERDAM TO KANO																						2473 N.MI.			
55,000	-56.5	-65	-8	-6	-4	-63	-7	-5	-3	-66	-9	-7	-6	-67	-10	-8	-7	-65	-9	-6	-5	4	3	3	3
40,000	-56.5	-56	1	4	5	-55	2	5	6	-51	5	7	8	-55	2	4	5	-54	2	5	6	4	5	3	3
30,000	-44.5	-44	0	2	3	-40	4	6	7	-34	10	12	13	-38	6	8	9	-39	5	8	10	3	3	3	3
20,000	-21.2	-18	3	5	7	-15	6	8	9	-8	13	15	15	-12	9	11	12	-13	8	10	12	3	3	2	3
10,000	-4.6	-1	3	6	7	2	7	9	10	10	15	16	17	4	9	11	12	4	8	11	13	3	3	2	3
AMSTERDAM TO KEFLAVIK																						1099 N.MI.			
55,000	-56.5	-58	-1	2	4	-51	5	8	9	-47	10	12	13	-56	1	4	5	-53	4	7	9	5	4	3	4
40,000	-56.5	-57	-1	4	6	-52	5	9	12	-48	8	12	14	-55	2	6	8	-53	4	8	11	7	7	6	6
30,000	-44.5	-52	-7	-4	-3	-48	-4	-1	1	-43	1	4	6	-46	-1	2	3	-47	-3	1	3	4	4	4	5
20,000	-21.2	-29	-7	-3	-1	-26	-5	-1	1	-17	4	6	8	-22	-0	3	5	-23	-2	2	4	6	5	4	6
10,000	-4.6	-12	-8	-4	-2	-10	-5	-2	-1	-2	3	5	6	-6	-1	2	4	-7	-3	1	2	5	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
AMSTERDAM TO LAGOS																									2745 N.MI.
53,000	-56.5	-66	-10	-7	-6	-65	-8	-6	-5	-67	-11	-8	-7	-68	-11	-9	-8	-67	-10	-8	-6	4	3	3	3
40,000	-56.5	-56	1	4	5	-55	2	5	7	-52	4	6	7	-55	2	4	5	-54	2	5	6	4	4	3	3
30,000	-44.5	-43	1	3	4	-39	5	7	8	-34	10	12	13	-37	7	9	10	-38	6	9	10	3	3	3	3
20,000	-21.2	-17	4	7	8	-14	7	9	10	-8	13	15	15	-11	10	12	13	-12	9	11	12	3	3	2	2
10,000	- 4.6	0	5	7	8	3	8	10	11	10	15	16	17	5	10	11	12	5	9	12	13	3	3	2	2
AMSTERDAM TO LIBREVILLE																									3121 N.MI.
53,000	-56.5	-68	-11	-9	-7	-66	-10	-8	-7	-68	-12	-10	-9	-69	-13	-10	-9	-68	-11	-9	-8	4	3	3	3
40,000	-56.5	-55	1	4	5	-54	2	5	7	-52	4	6	7	-54	2	4	5	-54	3	5	6	4	4	3	3
30,000	-44.5	-42	3	4	5	-38	6	8	9	-34	11	12	13	-37	8	10	11	-38	7	9	11	3	3	3	3
20,000	-21.2	-16	5	8	9	-13	8	10	11	-7	14	15	16	-10	11	12	13	-12	10	12	13	3	3	2	2
10,000	- 4.6	1	6	8	9	4	9	11	12	10	14	16	17	6	10	12	13	5	10	12	13	3	3	2	2
AMSTERDAM TO LISBON																									998 N.MI.
53,000	-56.5	-58	-2	2	3	-56	1	4	5	-55	2	4	5	-59	-3	-0	1	-57	-1	2	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	6	-53	4	7	8	-56	0	3	5	-56	0	4	6	6	6	5	5
30,000	-44.5	-48	-4	-1	-0	-46	-2	1	2	-39	6	8	9	-42	2	5	6	-44	1	4	6	4	4	3	4
20,000	-21.2	-23	-2	1	3	-20	1	4	5	-12	9	11	12	-16	5	8	9	-18	3	6	8	5	4	3	4
10,000	- 4.6	-7	-2	1	3	-3	1	4	5	4	9	11	12	-1	4	7	8	-2	3	6	8	5	4	3	4
AMSTERDAM TO LONDON																									200 N.MI.
53,000	-56.5	-57	-1	3	4	-54	3	5	7	-50	7	9	10	-58	-1	2	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	5	-55	1	6	8	-51	6	9	11	-56	0	4	6	-55	1	6	8	6	7	5	5
10,000	-44.5	-50	-6	-3	-2	-48	-3	-1	1	-41	4	6	8	-44	0	3	4	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-23	-2	2	4	-15	7	9	10	-19	3	6	8	-21	1	4	6	6	5	3	5
10,000	- 4.6	-10	-5	-2	0	-6	-2	1	3	1	6	8	9	-3	2	5	6	-5	0	3	5	5	4	3	5
AMSTERDAM TO LOS ANGELES																									4835 N.MI.
53,000	-56.5	-58	-1	2	4	-52	5	7	9	-51	6	8	9	-56	1	3	4	-54	2	5	7	5	4	3	4
40,000	-56.5	-55	1	5	8	-52	4	8	10	-50	7	10	11	-53	3	7	9	-53	4	8	10	6	6	5	5
10,000	-44.5	-53	-8	-5	-4	-49	-4	-2	-0	-42	3	5	6	-46	-2	1	3	-47	-3	1	2	4	4	4	4
20,000	-21.2	-32	-10	-6	-4	-27	-6	-2	-0	-16	5	8	9	-23	-1	2	4	-24	-3	1	3	6	5	4	6
10,000	- 4.6	-17	-12	-8	-6	-11	-7	-3	-1	0	5	7	8	-7	-3	1	3	-9	-4	0	2	6	5	4	6
AMSTERDAM TO MADRID																									789 N.MI.
53,000	-56.5	-58	-1	2	4	-55	1	4	5	-54	2	5	6	-59	-3	-0	1	-57	-0	3	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	6	-53	4	7	9	-56	0	3	5	-56	0	4	6	6	6	5	5
30,000	-44.5	-49	-4	-2	-0	-47	-2	1	2	-39	5	8	9	-43	2	4	6	-44	0	4	5	4	4	4	4
20,000	-21.2	-24	-3	1	2	-21	1	3	5	-13	9	11	12	-17	5	7	9	-18	3	6	8	5	4	3	4
10,000	- 4.6	-7	-3	1	2	-4	1	3	5	4	8	11	12	-1	4	6	8	-2	3	6	8	5	4	3	4
AMSTERDAM TO MIAMI																									4016 N.MI.
53,000	-56.5	-61	-4	-1	0	-58	-1	1	3	-57	-1	2	3	-61	-5	-2	-0	-59	-3	0	2	4	4	3	4
40,000	-56.5	-57	-0	4	6	-56	1	5	7	-54	3	6	7	-55	2	5	7	-55	1	5	6	6	6	4	5
30,000	-44.5	-46	-2	1	2	-45	-0	2	3	-38	6	7	10	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-22	-1	3	5	-20	1	5	6	-12	9	12	13	-15	6	9	10	-17	4	7	9	5	4	3	4
10,000	- 4.6	-7	-3	1	3	-4	0	3	5	3	8	10	11	-0	4	7	9	-2	3	5	7	5	4	3	4
AMSTERDAM TO MOSCOW																									1156 N.MI.
53,000	-56.5	-56	0	3	5	-53	4	6	8	-48	9	11	12	-56	0	3	4	-53	3	7	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	2	6	8	-50	6	10	12	-55	1	4	6	-55	2	6	8	5	6	5	5
30,000	-44.5	-53	-8	-5	-4	-49	-4	-2	-0	-41	3	6	8	-45	-1	2	4	-47	-2	1	4	4	4	4	4
20,000	-21.2	-30	-8	-4	-2	-24	-3	1	2	-15	6	9	10	-20	1	5	7	-22	-1	3	5	6	5	3	5
10,000	- 4.6	-14	-10	-6	-4	-8	-4	-0	1	0	5	7	8	-6	-1	2	4	-7	-3	1	3	6	5	3	5
AMSTERDAM TO MURDEN																									4324 N.MI.
53,000	-56.5	-55	2	5	7	-50	7	9	11	-46	10	13	14	-53	3	6	7	-51	5	9	11	5	4	4	4
40,000	-56.5	-58	-1	2	4	-51	6	10	12	-48	8	12	14	-53	4	7	9	-52	4	8	11	5	6	6	5
30,000	-44.5	-55	-10	-8	-6	-49	-5	-2	-0	-38	7	10	12	-47	-3	0	2	-47	-3	2	5	4	5	5	5
20,000	-21.2	-34	-13	-9	-7	-27	-6	-2	0	-14	8	10	12	-23	-2	2	4	-25	-3	2	4	6	6	4	6
10,000	- 4.6	-20	-16	-11	-9	-13	-8	-4	-2	1	6	8	10	-9	-5	-1	1	-10	-6	-1	2	6	6	4	6
AMSTERDAM TO NEW YORK																									3156 N.MI.
53,000	-56.5	-57	-0	3	4	-53	3	6	7	-52	5	7	9	-57	-0	3	5	-55	2	5	7	4	4	4	4
40,000	-56.5	-55	2	6	9	-54	3	7	10	-51	5	8	10	-54	3	6	8	-53	3	7	9	6	7	5	6
30,000	-44.5	-49	-5	-2	-0	-47	-3	-0	1	-41	4	7	8	-44	0	3	5	-45	-1	3	5	4	4	4	[illegible]
20,000	-21.2	-27	-6	-2	1	-24	-3	1	3	-14	7	9	11	-19	2	6	8	-21	0	4	6	7	5	4	5
10,000	- 4.6	-13	-8	-4	-2	-8	-4	-0	1	1	5	7	9	-4	0	4	6	-6	-2	2	4	6	5	3	5
AMSTERDAM TO OSLO																									495 N.MI.
51,000	-56.5	-58	-1	2	4	-53	4	6	8	-48	9	11	12	-57	-0	3	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	2	4	-54	3	7	10	-50	7	11	13	-56	0	4	6	-54	2	7	9	6	7	6	5
30,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-0	-42	3	5	6	-45	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-25	-3	-0	2	-16	5	8	9	-20	1	4	6	-22	-1	3	5	6	5	4	5
10,000	- 4.6	-13	-8	-4	-2	-9	-4	-1	1	-0	4	6	8	-5	-1	2	4	-7	-2	1	3	6	5	3	5
AMSTERDAM TO PARIS																									220 N.MI.
51,000	-56.5	-57	-1	3	5	-54	3	5	7	-51	6	8	10	-58	-1	1	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	1	5	8	-51	5	9	11	-56	0	3	5	-55	1	5	8	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-45	-3	-1	1	-41	4	6	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-14	7	9	11	-18	3	6	8	-20	1	5	6	6	5	3	5
10,000	- 4.6	-10	-5	-2	0	-6	-1	1	3	2	6	8	10	-2	2	5	7	-4	0	4	6	5	4	3	4
AMSTERDAM TO PRAGUE																									381 N.MI.
53,000	-56.5	-56	0	3	5	-54	3	5	7	-50	7	9	10	-58	-1	2	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	5	7	-51	5	9	11	-56	0	3	5	-55	1	5	8	6	6	5	5
30,000	-44.5	-51	-7	-4	-2	-48	-4	-1	0	-41	4	6	8	-44	0	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-23	-2	1	3	-14	7	9	10	-18	3	6	8	-21	0	4	6	6	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-7	-2	1	2	1	6	8	9	-3	1	4	6	-5	-1	3	5	6	4	3	5
AMSTERDAM TO ROME																									706 N.MI.
53,000	-56.5	-56	0	3	5	-55	2	4	6	-53	3	6	7	-59	-2	0	2	-56	1	4	5	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-0	3	5	-52	5	8	9	-56	0	3	5	-56	1	4	7	6	6	5	4
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-39	5	8	9	-43	1	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-21	-0	3	4	-13	8	11	12	-17	4	7	8	-19	2	5	7	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-5	-1	2	4	3	8	10	11	-2	3	6	7	-3	1	5	7	5	4	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50*D50	D75	D85		APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
AMSTERDAM TO SAN FRANCISCO																									4740 N.MI.
53,000	-56.5	-58	-1	3	5	-51	6	8	10	-49	8	10	11	-55	1	4	5	-53	3	6	8	6	4	3	4
40,000	-56.5	-56	0	5	7	-52	5	9	11	-49	7	10	12	-53	4	7	9	-53	4	8	10	6	6	5	5
30,000	-44.5	-53	-9	-6	-5	-49	-5	-2	-1	-43	2	4	5	-47	-3	0	2	-48	-4	-0	2	4	4	4	4
20,000	-21.2	-33	-12	-7	-5	-28	-7	-3	-1	-17	4	7	8	-24	-3	1	3	-25	-4	0	2	6	5	4	6
10,000	- 4.6	-18	-13	-9	-7	-13	-8	-4	-3	-1	3	6	7	-9	-4	-1	2	-10	-6	-1	1	6	5	4	6
AMSTERDAM TO SHANNON																									500 N.MI.
53,000	-56.5	-58	-1	2	4	-53	3	6	7	-50	7	9	11	-57	-1	2	4	-54	2	6	7	5	4	4	4
40,000	-56.5	-58	-1	3	5	-55	2	6	9	-51	6	10	12	-56	0	4	6	-55	2	8	9	6	7	6	5
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-41	3	6	7	-44	0	3	4	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-23	-2	2	3	-15	6	9	10	-19	2	6	8	-21	1	4	6	6	5	3	5
10,000	- 4.6	-9	-5	-1	0	-7	-2	1	2	1	5	7	9	-3	2	5	6	-5	0	3	5	5	4	3	4
AMSTERDAM TO SOFIA																									945 N.MI.
55,000	-56.5	-58	0	4	5	-54	2	5	6	-52	4	7	8	-58	-2	1	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	0	4	6	-51	6	9	10	-56	0	3	5	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-2	-48	-3	-1	1	-39	5	8	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	4	-13	8	10	11	-17	4	7	8	-20	1	5	7	5	4	3	4
10,000	- 4.6	-11	-7	-3	-1	-6	-1	2	3	2	7	9	10	-2	2	5	7	-4	0	4	6	5	4	3	4
AMSTERDAM TO SONDRESTROMFJORD																									1815 N.MI.
55,000	-56.5	-58	-1	2	4	-50	7	10	11	-46	11	13	14	-54	2	5	6	-52	5	8	10	6	4	3	4
40,000	-56.5	-57	-0	4	7	-50	6	11	13	-47	9	13	15	-53	4	7	9	-52	5	9	12	7	7	5	6
30,000	-44.5	-53	-8	-6	-4	-49	-4	-1	0	-44	1	3	5	-47	-3	0	2	-48	-4	-0	2	4	4	4	5
20,000	-21.2	-31	-10	-6	-3	-28	-7	-3	-1	-19	3	5	7	-24	-3	1	3	-25	-4	-0	2	6	5	4	6
10,000	- 4.6	-15	-10	-7	-5	-12	-8	-4	-3	-3	1	4	5	-9	-4	-1	1	-10	-5	-2	0	5	5	3	5
AMSTERDAM TO STOCKHOLM																									821 N.MI.
53,000	-56.5	-57	-1	2	4	-53	4	6	8	-48	9	11	12	-57	-0	3	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	2	4	-54	3	7	9	-50	7	10	12	-56	1	4	6	-55	2	7	9	6	6	5	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-42	3	5	7	-46	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-30	-8	-4	-2	-25	-4	-0	1	-16	6	8	9	-20	1	4	6	-23	-1	2	5	8	5	3	5
10,000	- 4.6	-14	-9	-5	-3	-9	-4	-1	1	-0	4	7	8	-6	-1	2	4	-7	-2	1	3	6	5	3	5
AMSTERDAM TO TEHERAN																									2194 N.MI.
53,000	-56.5	-57	-0	3	5	-55	2	4	5	-55	2	4	5	-59	-2	1	2	-56	0	3	4	5	4	3	4
40,000	-56.5	-57	-1	2	4	-55	1	5	7	-49	8	10	12	-56	0	3	5	-54	2	6	8	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-46	-2	1	2	-36	8	11	12	-43	2	4	5	-44	0	4	7	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-21	1	4	5	-11	11	13	14	-17	4	7	8	-19	3	6	8	5	5	3	4
10,000	- 4.6	-11	-7	-3	-1	-4	0	3	5	5	9	11	12	-1	3	6	8	-3	2	5	7	6	5	3	4
AMSTERDAM TO TEL AVIV-JAFFA																									1788 N.MI.
55,000	-56.5	-58	-1	2	4	-56	0	3	4	-58	-1	1	2	-60	-4	-1	0	-58	-1	1	3	4	3	3	4
40,000	-56.5	-57	-0	3	5	-56	0	4	6	-49	7	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-50	-5	-3	-2	-46	-2	1	2	-36	9	11	12	-42	2	5	8	-44	1	5	7	4	4	3	3
20,000	-21.2	-25	-4	-1	1	-20	1	4	5	-10	11	13	14	-18	5	8	9	-18	3	7	9	5	4	3	4
10,000	- 4.6	-9	-5	-2	-0	-4	1	4	5	5	10	12	13	0	5	7	9	-2	3	6	8	5	4	3	4
AMSTERDAM TO VANCOUVER																									4159 N.MI.
53,000	-56.5	-58	-1	3	5	-49	8	10	12	-46	10	12	13	-54	3	5	7	-52	5	8	10	6	4	3	4
40,000	-56.5	-57	-0	4	6	-50	6	10	12	-48	9	12	14	-52	4	8	10	-52	5	9	11	6	6	5	5
30,000	-44.5	-55	-10	-7	-6	-50	-6	-3	-2	-44	0	2	4	-49	-4	-1	0	-50	-5	-2	0	4	4	4	4
20,000	-21.2	-55	-14	-10	-7	-51	-9	-6	-4	-19	2	5	6	-26	-5	-1	1	-28	-7	-2	0	6	5	4	6
10,000	- 4.6	-20	-16	-12	-10	-16	-11	-7	-5	-4	1	3	5	-12	-7	-3	-2	-13	-8	-4	-2	6	5	4	5
AMSTERDAM TO VIENNA																									517 N.MI.
55,000	-56.5	-56	0	4	5	-54	3	5	7	-50	6	8	10	-58	-1	1	3	-55	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	5	9	10	-56	0	3	5	-55	1	5	7	5	6	5	5
30,000	-44.5	-51	-7	-4	-2	-48	-4	-1	0	-40	4	7	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-23	-1	2	3	-14	7	9	11	-18	3	6	8	-20	1	4	6	6	4	3	5
10,000	- 4.6	-12	-7	-3	-1	-7	-2	1	3	2	6	8	10	-3	2	5	7	-5	-0	3	5	6	4	3	5
AMSTERDAM TO ZURICH																									326 N.MI.
55,000	-56.5	-57	-0	3	5	-54	2	5	6	-51	5	8	9	-58	-1	1	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	0	5	7	-52	5	8	10	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	1	-40	4	7	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-5	-2	1	-22	-1	2	4	-14	7	10	11	-18	3	6	8	-20	1	5	7	6	4	3	5
10,000	- 4.6	-10	-6	-2	-0	-6	-1	1	3	2	7	9	10	-2	2	5	7	-4	0	4	6	6	4	3	5
ANCHORAGE TO COPENHAGEN																									3745 N.MI.
53,000	-56.5	-60	-4	-0	2	-48	8	11	12	-44	13	14	15	-53	4	6	7	-51	5	8	10	5	4	2	3
40,000	-56.5	-58	-2	2	4	-49	8	11	13	-46	11	14	16	-52	4	7	9	-51	5	9	12	5	5	4	4
30,000	-44.5	-57	-12	-10	-8	-51	-8	-5	-4	-45	-1	2	3	-52	-7	-5	-3	-52	-7	-3	-2	4	4	3	4
20,000	-21.2	-36	-15	-11	-9	-34	-12	-9	-8	-20	1	3	4	-30	-9	-6	-4	-30	-9	-4	-2	5	5	4	5
10,000	- 4.6	-22	-17	-13	-11	-19	-14	-10	-9	-5	-0	2	3	-15	-11	-8	-6	-15	-11	-6	-4	6	5	3	5
ANCHORAGE TO EDMONTON																									1265 N.MI.
51,000	-56.5	-53	3	7	9	-50	6	9	10	-48	8	10	11	-55	4	6	7	-51	5	8	9	6	4	3	4
40,000	-56.5	-54	2	7	9	-52	5	8	10	-51	6	9	11	-53	4	7	9	-52	4	8	10	6	5	5	5
30,000	-44.5	-55	-8	-5	-4	-51	-6	-4	-2	-44	1	3	4	-48	-4	-1	1	-49	-4	-1	1	4	4	3	4
20,000	-21.2	-32	-11	-6	-4	-28	-7	-4	-2	-17	4	7	8	-25	-4	0	2	-25	-4	-0	2	7	5	4	6
10,000	- 4.6	-17	-13	-8	-5	-12	-8	-5	-3	-1	3	6	7	-9	-4	-1	0	-10	-5	-1	1	7	4	3	5
ANCHORAGE TO FRANKFURT																									4069 N.MI.
55,000	-56.5	-60	-3	0	2	-48	8	11	12	-44	12	14	15	-53	3	5	7	-51	5	8	10	5	4	2	3
40,000	-56.5	-58	-2	2	4	-49	7	11	13	-46	11	14	15	-52	4	7	9	-52	5	9	11	6	5	5	4
30,000	-44.5	-56	-12	-9	-8	-52	-8	-5	-3	-45	-0	2	3	-51	-6	-4	-2	-51	-7	-3	-1	4	4	3	4
20,000	-21.2	-35	-14	-10	-8	-33	-11	-8	-7	-20	1	3	5	-29	-8	-5	-3	-29	-8	-4	-1	5	5	4	5
10,000	- 4.6	-21	-16	-12	-10	-18	-13	-9	-8	-5	-0	2	3	-14	-10	-7	-5	-14	-10	-5	-3	6	5	3	5
ANCHORAGE TO GENEVA																									4252 N.MI.
55,000	-56.5	-59	-3	1	3	-49	8	11	12	-45	12	14	14	-53	3	5	6	-51	5	8	10	5	4	2	3
40,000	-56.5	-58	-2	2	4	-50	7	10	12	-46	10	13	15	-53	4	7	9	-52	5	9	11	6	5	5	4
30,000	-44.5	-56	-11	-9	-7	-52	-7	-4	-3	-45	-0	2	3	-50	-6	-3	-2	-51	-6	-3	-1	4	4	3	4
20,000	-21.2	-35	-13	-10	-8	-32	-11	-8	-6	-20	1	4	5	-28	-7	-4	-2	-29	-7	-3	-1	5	5	4	5
10,000	- 4.6	-20	-15	-11	-9	-17	-12	-9	-7	-4	0	3	4	-13	-9	-6	-4	-14	-9	-5	-3	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	D50*	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
ANCHORAGE TO HAMBURG																									3846 N.MI.
55,000	-56.5	-60	-3	0	2	-48	8	11	12	-44	13	14	15	-55	4	6	7	-51	5	8	10	5	4	2	3
40,000	-56.5	-58	-2	2	4	-49	7	11	13	-46	11	14	15	-52	4	7	9	-51	5	9	12	6	5	4	4
30,000	-44.5	-56	-12	-9	-8	-52	-8	-5	-3	-45	-1	2	3	-51	-7	-4	-3	-51	-7	-3	-1	4	4	3	4
20,000	-21.2	-36	-14	-11	-9	-33	-12	-9	-7	-20	1	3	5	-30	-8	-5	-4	-30	-9	-4	-2	5	5	4	5
10,000	-4.6	-21	-17	-13	-11	-18	-14	-10	-8	-5	-0	2	3	-15	-10	-7	-6	-15	-10	-6	-4	6	5	3	5
ANCHORAGE TO KEFLAVIK																									2928 N.MI.
55,000	-56.5	-59	-2	2	4	-47	10	13	14	-44	13	14	15	-52	5	7	8	-50	6	9	11	6	4	2	3
40,000	-56.5	-57	-1	3	5	-48	8	11	13	-45	11	14	16	-51	6	8	10	-50	6	10	12	6	5	4	4
30,000	-44.5	-57	-12	-10	-8	-52	-8	-5	-3	-46	-1	1	2	-52	-8	-5	-4	-52	-7	-4	-2	4	5	3	4
20,000	-21.2	-37	-16	-12	-11	-35	-13	-10	-8	-21	-0	2	4	-31	-10	-7	-5	-31	-10	-5	-3	5	5	4	5
10,000	-4.6	-23	-19	-15	-13	-20	-15	-12	-10	-6	-1	1	3	-16	-12	-9	-7	-16	-12	-7	-5	6	5	4	4
ANCHORAGE TO LONDON																									3886 N.MI.
55,000	-56.5	-59	-3	1	3	-49	9	11	13	-44	12	14	15	-55	4	6	7	-51	5	9	10	5	4	2	3
40,000	-56.5	-58	-1	3	5	-49	7	11	13	-46	11	14	15	-52	5	7	9	-51	5	9	12	6	5	5	4
30,000	-44.5	-56	-11	-9	-7	-52	-7	-4	-3	-45	-1	2	3	-51	-6	-4	-2	-51	-6	-3	-1	4	4	3	4
20,000	-21.2	-35	-14	-10	-6	-33	-12	-8	-6	-20	1	3	4	-29	-8	-5	-3	-29	-8	-4	-2	5	5	4	5
10,000	-4.6	-21	-16	-12	-10	-18	-13	-10	-8	-5	-0	2	3	-14	-10	-7	-5	-14	-10	-5	-3	6	5	3	5
ANCHORAGE TO MINNEAPOLIS																									2181 N.MI.
55,000	-56.5	-55	2	6	8	-52	5	7	9	-51	6	8	9	-55	2	4	5	-55	3	6	8	6	4	3	4
40,000	-56.5	-54	2	6	9	-55	3	7	9	-52	5	8	10	-54	3	6	8	-55	3	7	9	6	5	5	5
30,000	-44.5	-53	-6	-6	-4	-50	-6	-3	-2	-42	3	5	6	-47	-3	0	1	-48	-4	-0	2	4	4	3	4
20,000	-21.2	-32	-11	-7	-4	-27	-5	-2	-0	-15	6	8	9	-23	-2	2	4	-24	-3	1	3	7	5	3	5
10,000	-4.6	-18	-13	-8	-6	-11	-6	-3	-1	1	5	8	9	-7	-3	1	3	-9	-4	0	2	7	5	4	5
ANCHORAGE TO MONTREAL																									2711 N.MI.
55,000	-56.5	-55	2	6	8	-50	6	9	10	-49	7	10	11	-54	3	5	7	-52	5	7	9	6	4	3	4
40,000	-56.5	-54	2	7	9	-52	5	9	10	-50	6	9	11	-52	4	8	10	-52	4	8	10	6	5	5	5
30,000	-44.5	-54	-9	-7	-5	-51	-7	-4	-3	-43	2	4	5	-48	-4	-1	0	-49	-5	-1	1	4	4	4	4
20,000	-21.2	-35	-14	-10	-7	-29	-8	-4	-2	-17	4	7	8	-25	-4	0	2	-26	-5	-1	2	6	5	4	6
10,000	-4.6	-22	-17	-12	-10	-14	-10	-6	-4	-2	3	6	7	-10	-5	-1	1	-12	-7	-3	-0	7	5	4	6
ANCHORAGE TO NEW YORK																									2933 N.MI.
55,000	-56.5	-55	1	5	7	-52	5	7	9	-51	6	8	9	-55	2	4	5	-53	3	6	8	5	4	3	4
40,000	-56.5	-54	2	6	9	-53	4	8	10	-51	5	8	10	-53	4	7	9	-53	4	7	9	6	5	5	5
30,000	-44.5	-53	-9	-6	-4	-50	-6	-3	-2	-42	3	5	6	-47	-3	0	1	-48	-4	-0	2	4	4	3	4
20,000	-21.2	-33	-12	-8	-5	-27	-6	-3	-1	-16	6	8	9	-23	-2	2	4	-25	-4	1	3	6	5	4	6
10,000	-4.6	-20	-15	-10	-8	-12	-6	-4	-3	-0	4	7	6	-8	-3	1	3	-10	-5	-1	1	7	5	4	6
ANCHORAGE TO PARIS																									4060 N.MI.
55,000	-56.5	-59	-3	1	3	-48	6	11	12	-44	12	14	15	-55	3	6	7	-51	5	8	10	5	4	2	3
40,000	-56.5	-58	-2	2	4	-49	7	11	13	-46	11	14	15	-52	4	7	9	-51	5	9	12	6	5	5	4
30,000	-44.5	-56	-11	-9	-7	-52	-7	-4	-3	-45	-1	2	3	-51	-6	-4	-2	-51	-6	-3	-1	4	4	3	4
20,000	-21.2	-35	-14	-10	-8	-32	-11	-8	-6	-20	1	3	5	-29	-8	-4	-3	-29	-8	-4	-1	5	5	4	5
10,000	-4.6	-20	-15	-12	-10	-17	-13	-9	-7	-5	-0	2	4	-14	-9	-6	-4	-14	-9	-5	-3	6	5	3	5
ANCHORAGE TO SEATTLE																									1255 N.MI.
55,000	-56.5	-53	3	7	9	-51	5	8	10	-50	7	9	10	-54	3	6	7	-52	5	7	9	5	4	3	4
40,000	-56.5	-54	2	7	9	-53	4	8	10	-51	5	9	10	-53	4	7	9	-53	4	7	9	7	6	5	5
30,000	-44.5	-51	-6	-4	-2	-49	-5	-2	-1	-43	1	4	5	-47	-2	0	2	-48	-3	0	2	4	3	4	4
20,000	-21.2	-29	-8	-4	-1	-27	-6	-2	-0	-16	5	8	9	-24	-2	1	3	-24	-3	2	4	6	5	4	5
10,000	-4.6	-13	-9	-4	-2	-11	-7	-4	-2	-1	4	6	6	-8	-3	0	2	-8	-4	0	2	6	4	3	5
ANCHORAGE TO SHANNON																									3720 N.MI.
55,000	-56.5	-59	-2	2	4	-48	9	12	13	-44	12	14	15	-52	4	6	7	-51	6	9	11	6	4	3	3
40,000	-56.5	-57	-1	3	5	-49	7	11	11	-46	11	14	15	-52	5	8	10	-51	6	10	12	6	5	5	4
30,000	-44.5	-56	-11	-9	-7	-51	-7	-4	-2	-45	-1	2	3	-51	-6	-4	-2	-51	-6	-3	-1	4	4	4	4
20,000	-21.2	-35	-14	-10	-6	-33	-12	-8	-6	-21	1	3	5	-29	-8	-5	-3	-29	-8	-4	-2	5	5	4	5
10,000	-4.6	-21	-16	-13	-11	-18	-13	-10	-8	-5	-0	2	3	-14	-10	-7	-5	-15	-10	-6	-3	6	5	3	5
ANCHORAGE TO SONDRESTROMFJORD																									2546 N.MI.
55,000	-56.5	-58	-1	3	5	-47	10	13	14	-44	12	14	15	-51	5	7	8	-50	6	9	11	6	4	2	3
40,000	-56.5	-57	-0	4	6	-49	6	11	13	-46	10	13	15	-51	6	8	10	-51	6	10	12	6	5	5	4
10,000	-44.5	-57	-12	-10	-8	-53	-8	-5	-4	-45	-1	1	2	-52	-6	-5	-3	-52	-7	-4	-2	4	4	3	4
20,000	-21.2	-39	-17	-14	-12	-35	-13	-10	-8	-21	1	3	4	-31	-10	-7	-5	-31	-10	-5	-3	5	5	4	5
10,000	-4.6	-26	-21	-17	-15	-20	-16	-12	-10	-5	-1	2	3	-17	-12	-9	-7	-17	-12	-7	-5	6	5	4	5
ANCHORAGE TO TOKYO																									5005 N.MI.
55,000	-56.5	-49	7	11	13	-51	6	9	10	-51	5	8	9	-52	4	7	8	-51	6	9	12	5	4	4	4
40,000	-56.5	-52	5	8	10	-51	5	9	11	-49	7	11	13	-52	5	8	10	-51	5	9	11	5	6	5	5
30,000	-44.5	-51	-7	-4	-2	-49	-4	-1	0	-38	7	10	12	-46	-1	1	3	-46	-1	3	6	4	4	5	4
20,000	-21.2	-30	-9	-5	-3	-26	-5	-2	0	-12	9	11	13	-24	-2	1	3	-23	-2	3	5	6	5	4	5
10,000	-4.6	-16	-11	-7	-5	-12	-8	-4	-3	2	7	9	10	-9	-4	-1	1	-9	-4	0	3	6	5	3	4
ANCHORAGE TO ZURICH																									4201 N.MI.
55,000	-56.5	-57	-3	0	2	-49	8	11	12	-44	12	14	15	-55	3	5	6	-51	5	8	10	5	4	2	3
40,000	-56.5	-58	-2	2	4	-50	7	10	12	-46	10	13	15	-55	4	7	8	-52	5	9	11	6	5	5	4
30,000	-44.5	-56	-11	-9	-7	-52	-7	-4	-3	-45	-0	2	3	-51	-6	-4	-2	-51	-6	-3	-1	4	4	3	4
20,000	-21.2	-35	-14	-10	-8	-32	-11	-8	-6	-20	1	4	5	-29	-7	-4	-3	-29	-8	-3	-1	5	5	4	5
10,000	-4.6	-20	-16	-12	-10	-17	-12	-9	-7	-4	0	2	4	-14	-9	-6	-4	-14	-9	-5	-3	6	5	3	5
ANKARA TO ATHENS																									452 N.MI.
55,000	-56.5	-57	-1	2	3	-57	-0	2	3	-62	-6	-3	-2	-61	-5	-2	-1	-59	-3	-0	1	4	5	5	5
40,000	-56.5	-56	0	3	5	-57	-0	3	5	-47	9	11	12	-56	0	2	3	-54	2	6	8	5	5	5	5
30,000	-44.5	-50	-5	-3	-2	-46	-1	1	2	-34	11	13	14	-41	3	5	6	-43	2	6	8	3	3	3	5
20,000	-21.2	-24	-3	-0	1	-20	2	4	6	-9	12	14	15	-15	6	8	9	-17	4	8	10	4	4	5	5
10,000	-4.6	-9	-4	-1	0	-3	2	5	6	7	11	13	14	2	6	8	10	-1	4	7	9	4	4	5	5
ANKARA TO BAGHDAD																									682 N.MI.
55,000	-56.5	-60	-3	-0	1	-58	-2	0	1	-66	-10	-8	-7	-62	-6	-3	-2	-62	-5	-2	-1	4	3	5	4
40,000	-56.5	-56	1	4	5	-55	1	5	6	-46	10	12	13	-56	0	3	4	-55	3	7	8	4	5	3	5
30,000	-44.5	-48	-4	-2	-0	-44	0	2	4	-29	15	17	18	-41	4	6	7	-41	4	8	10	3	5	5	5
20,000	-21.2	-23	-1	1	3	-18	3	6	7	-5	16	18	19	-14	7	9	10	-15	6	10	12	4	4	3	5
10,000	-4.6	-7	-2	1	2	-0	4	7	9	10	15	17	18	4	8	11	12	2	6	10	12	4	4	5	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50*	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
ANKARA TO BARCELONA																									1401 N.MI.
55,000	-56.5	-57	-0	3	5	-56	0	3	4	-59	-2	0	1	-60	-4	-1	-0	-58	-1	1	3	5	4	3	3
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-50	7	9	10	-56	0	2	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-50	-5	-3	-1	-46	-2	1	2	-36	8	10	12	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	-0	1	-20	1	4	5	-10	11	13	14	-16	6	8	9	-18	4	7	9	4	4	3	4
10,000	-4.6	-8	-4	-1	1	-3	2	4	6	6	10	13	14	0	5	7	9	-1	3	7	9	4	4	3	3
ANKARA TO BASLE																									1182 N.MI.
55,000	-56.5	-56	0	4	5	-55	1	4	5	-55	2	4	5	-59	-3	-0	1	-56	0	3	4	5	4	3	4
40,000	-56.5	-57	-1	2	4	-57	-0	3	5	-50	7	9	11	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-47	-2	0	2	-38	7	9	11	-43	2	4	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-21	0	3	5	-12	10	12	13	-17	5	7	9	-19	2	6	8	5	4	3	4
10,000	-4.6	-11	-6	-3	-1	-5	-0	3	4	4	8	11	12	-1	4	6	8	-3	1	5	7	5	4	3	4
ANKARA TO BASRA																									921 N.MI.
55,000	-56.5	-61	-4	-2	-0	-60	-3	-1	0	-68	-11	-9	-8	-63	-7	-4	-3	-63	-6	-4	-2	4	3	3	4
40,000	-56.5	-55	1	4	6	-55	1	5	7	-46	10	12	13	-56	1	3	4	-53	3	7	9	4	5	3	3
30,000	-44.5	-47	-3	-1	1	-43	1	3	5	-28	16	18	19	-40	5	7	8	-40	5	9	11	3	3	3	3
20,000	-21.2	-22	-0	2	3	-17	4	6	8	-5	17	19	20	-13	8	10	11	-14	7	11	13	4	4	3	3
10,000	-4.6	-6	-1	2	3	1	5	8	9	12	16	18	19	4	9	11	12	3	7	11	13	4	4	3	3
ANKARA TO BEIRUT																									396 N.MI.
55,000	-56.5	-59	-3	-0	1	-58	-2	1	2	-66	-9	-7	-6	-62	-6	-3	-2	-61	-5	-2	-1	4	3	3	4
40,000	-56.5	-56	1	4	5	-56	1	4	6	-47	10	12	13	-56	0	2	4	-54	3	6	8	4	5	3	3
30,000	-44.5	-49	-4	-2	-1	-45	-0	2	3	-30	14	16	17	-41	4	6	7	-41	3	8	10	3	3	3	3
20,000	-21.2	-23	-2	1	2	-19	3	5	7	-7	15	17	18	-14	7	9	10	-15	6	9	11	4	4	3	3
10,000	-4.6	-7	-3	0	2	-1	4	6	8	9	14	15	16	3	8	10	11	1	6	9	11	4	4	3	3
ANKARA TO BELEM																									5063 N.MI.
55,000	-56.5	-69	-13	-10	-9	-68	-12	-10	-9	-70	-13	-11	-10	-71	-14	-12	-11	-69	-13	-11	-10	3	3	3	3
40,000	-56.5	-55	1	4	5	-55	1	4	6	-52	5	6	7	-55	2	4	5	-54	2	4	6	4	4	2	3
30,000	-44.5	-41	4	5	6	-37	7	9	9	-34	11	12	13	-36	9	10	11	-37	8	10	11	2	2	2	2
20,000	-21.2	-14	7	9	10	-12	10	11	12	-7	14	15	16	-9	12	13	14	-11	11	12	14	3	3	2	2
10,000	-4.6	2	7	9	10	4	9	11	12	10	14	16	16	7	11	13	13	6	10	12	14	3	3	2	2
ANKARA TO BOMBAY																									2404 N.MI.
55,000	-56.5	-66	-9	-7	-5	-65	-8	-6	-5	-71	-14	-12	-10	-68	-12	-9	-8	-67	-11	-8	-6	4	4	4	4
40,000	-56.5	-55	2	5	6	-54	3	6	8	-47	10	12	14	-55	2	4	6	-53	4	8	10	4	5	4	4
30,000	-44.5	-42	2	5	6	-39	5	8	9	-27	17	19	20	-17	8	10	11	-37	8	12	14	4	4	3	3
20,000	-21.2	-17	4	6	7	-13	8	11	12	-3	16	20	21	-11	11	13	14	-11	10	14	15	4	3	3	3
10,000	-4.6	-1	3	6	7	5	9	12	13	14	18	20	21	6	11	13	14	6	10	14	15	4	3	2	3
ANKARA TO BRUSSELS																									1350 N.MI.
55,000	-56.5	-56	0	4	5	-55	2	4	6	-54	3	5	6	-59	-2	0	2	-56	1	4	5	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	0	4	6	-50	7	9	11	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-47	-3	-0	1	-38	6	9	10	-43	2	4	5	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-2	-0	-22	-0	3	4	-12	9	11	12	-17	4	7	8	-19	2	5	7	5	4	3	4
10,000	-4.6	-11	-7	-3	-1	-5	-1	2	4	3	8	10	11	-2	3	6	7	-4	1	4	6	5	4	3	4
ANKARA TO BUDAPEST																									738 N.MI.
55,000	-56.5	-56	1	4	5	-55	1	4	5	-55	1	4	5	-59	-3	-0	1	-56	0	3	4	5	3	3	4
40,000	-56.5	-57	-1	2	4	-56	0	4	5	-49	8	10	12	-56	0	3	4	-55	2	6	8	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-47	-2	0	2	-37	8	10	11	-43	2	4	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-2	-0	-21	0	3	5	-11	10	12	13	-17	5	7	8	-19	2	6	8	5	5	3	4
10,000	-4.6	-11	-7	-4	-2	-5	0	3	5	4	9	11	12	-1	4	6	8	-3	1	5	7	5	5	3	4
ANKARA TO CAIRO																									605 N.MI.
55,000	-56.5	-61	-5	-2	-1	-59	-3	-1	0	-67	-11	-9	-8	-63	-7	-5	-3	-63	-6	-4	-2	4	3	3	3
40,000	-56.5	-55	1	4	6	-56	1	4	6	-47	10	12	13	-56	0	3	4	-54	3	6	8	4	5	3	3
30,000	-44.5	-47	-3	-1	0	-44	1	3	4	-29	15	17	18	-40	4	6	7	-40	4	9	11	3	3	3	3
20,000	-21.2	-21	-0	2	4	-18	4	6	8	-6	15	17	18	-13	8	9	10	-15	7	10	12	4	4	3	3
10,000	-4.6	-6	-1	1	3	-0	4	7	8	10	14	16	17	4	9	11	12	2	7	10	11	4	4	2	3
ANKARA TO COPENHAGEN																									1229 N.MI.
55,000	-56.5	-56	1	4	5	-54	2	5	6	-52	5	7	8	-58	-1	1	2	-55	2	4	6	5	4	3	4
40,000	-56.5	-58	-1	2	4	-55	1	5	6	-49	7	10	11	-56	0	3	5	-55	2	6	8	5	5	4	4
30,000	-44.5	-52	-7	-5	-3	-48	-3	-1	1	-39	6	8	10	-43	1	3	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-3	-1	-22	-1	2	4	-13	8	10	12	-18	3	6	8	-20	1	5	7	5	5	3	4
10,000	-4.6	-13	-8	-4	-2	-6	-2	2	3	2	7	9	10	-3	2	5	6	-5	-0	3	5	5	5	3	4
ANKARA TO DHAHRAN																									1193 N.MI.
55,000	-56.5	-63	-6	-4	-3	-62	-5	-3	-2	-69	-12	-10	-9	-65	-9	-6	-5	-65	-8	-5	-4	4	3	3	4
40,000	-56.5	-55	2	4	6	-55	2	5	7	-46	10	12	13	-55	1	3	4	-53	4	7	9	4	5	3	3
30,000	-44.5	-46	-1	1	2	-42	3	5	6	-28	17	19	20	-39	6	8	9	-38	6	10	12	3	3	3	3
20,000	-21.2	-20	1	4	5	-16	5	8	9	-4	17	19	20	-12	9	11	12	-13	8	12	14	3	3	3	3
10,000	-4.6	-4	1	3	5	2	7	9	10	13	17	19	20	5	10	12	13	4	9	12	14	4	4	2	3
ANKARA TO DUSSELDORF																									1277 N.MI.
55,000	-56.5	-56	1	4	5	-55	2	4	6	-53	3	5	7	-59	-2	0	2	-56	1	4	5	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	0	4	6	-50	7	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-47	-3	-0	1	-38	6	9	10	-43	2	4	5	-45	-0	3	5	4	4	4	4
20,000	-21.2	-27	-5	-2	-0	-22	-0	3	4	-12	9	11	12	-17	4	7	8	-19	2	5	7	5	5	3	4
10,000	-4.6	-12	-7	-4	-2	-5	-1	2	4	3	8	10	11	-2	3	6	7	-4	1	4	6	5	5	3	4
ANKARA TO FRANKFURT																									1185 N.MI.
55,000	-56.5	-56	1	4	5	-55	2	4	5	-54	3	5	6	-59	-2	0	2	-56	1	3	5	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	0	4	6	-50	7	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-47	-3	-0	1	-38	7	9	10	-43	2	4	5	-45	-0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-2	-0	-21	-0	3	4	-12	9	11	12	-17	4	7	8	-19	2	5	7	5	4	3	4
10,000	-4.6	-11	-7	-3	-2	-5	-1	2	4	3	8	10	11	-1	3	6	8	-4	1	4	6	5	5	3	4
ANKARA TO GENEVA																									1226 N.MI.
55,000	-56.5	-56	0	4	5	-55	1	4	5	-56	1	3	4	-59	-3	-0	1	-57	-0	3	4	5	4	3	4
40,000	-56.5	-57	-1	2	4	-57	-0	3	5	-50	6	9	10	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-47	-2	0	2	-37	7	10	11	-42	2	5	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-1	0	-21	0	3	5	-11	10	12	13	-16	5	7	9	-19	3	6	8	5	4	3	4
10,000	-4.6	-10	-6	-2	-1	-5	0	3	5	4	9	11	12	-1	4	7	8	-3	2	5	7	5	4	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
ANKARA TO ISTANBUL																									197 N.MI.
55,000	-56.5	-57	-0	3	4	-56	1	3	4	-60	-4	-1	-0	-60	-4	-1	-0	-58	-2	1	2	4	3	3	4
40,000	-56.5	-57	-0	3	5	-56	0	4	6	-47	9	11	12	-56	0	2	4	-54	2	6	8	5	5	3	3
30,000	-44.5	-51	-6	-4	-3	-46	-1	1	2	-34	10	13	14	-42	3	5	6	-43	1	5	8	3	3	3	3
20,000	-21.2	-25	-4	-1	0	-20	1	4	6	-9	12	14	15	-15	6	8	9	-17	4	7	9	4	4	3	3
10,000	-4.6	-10	-5	-2	-1	-1	1	4	6	6	10	12	13	1	6	8	9	-1	3	7	8	4	4	3	4
ANKARA TO LONDON																									1538 N.MI.
55,000	-56.5	-56	0	4	5	-55	2	4	6	-53	3	6	7	-59	-2	0	2	-56	1	4	5	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	0	4	6	-50	6	9	11	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-47	-3	-0	1	-39	6	8	10	-43	1	4	5	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-22	-0	3	4	-12	9	11	12	-17	4	7	8	-19	2	5	7	5	5	3	4
10,000	-4.6	-11	-6	-3	-1	-5	-1	2	4	3	8	10	11	-2	3	6	7	-4	1	4	6	5	4	3	4
ANKARA TO MADRID																									1661 N.MI.
55,000	-56.5	-57	-1	3	4	-56	0	3	4	-59	-2	0	1	-60	-4	-2	-0	-58	-2	1	3	5	4	3	3
40,000	-56.5	-57	-1	1	5	-57	-1	3	5	-50	6	9	10	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-49	-5	-2	-1	-46	-1	1	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-1	0	2	-20	2	4	6	-10	11	13	14	-15	6	8	9	-17	4	7	9	4	4	3	3
10,000	-4.6	-8	-3	-0	2	-3	2	5	6	6	11	13	14	0	5	7	9	-1	4	7	9	4	4	3	3
ANKARA TO MOSCOW																									966 N.MI.
55,000	-56.5	-56	1	4	6	-54	3	5	6	-51	5	7	8	-57	-1	2	3	-54	2	5	6	5	3	3	4
40,000	-56.5	-58	-1	2	1	-55	1	5	7	-48	8	11	12	-55	1	4	5	-54	2	6	8	5	5	4	4
30,000	-44.5	-52	-8	-5	-4	-47	-2	1	2	-38	7	10	11	-43	1	4	5	-45	-1	4	6	4	4	4	4
20,000	-21.2	-28	-6	-1	-1	-21	-0	3	5	-12	9	11	12	-18	3	6	8	-20	1	5	7	5	5	3	5
10,000	-4.6	-13	-9	-5	-3	-5	-1	3	5	3	7	9	10	-3	1	5	6	-5	-0	3	5	6	5	3	5
ANKARA TO MUKDEN																									5895 N.MI.
55,000	-56.5	-53	4	7	9	-52	5	7	9	-50	6	9	11	-54	2	5	6	-52	4	7	9	5	4	4	4
40,000	-56.5	-57	-0	3	5	-52	5	8	10	-48	9	12	14	-53	3	7	9	-52	4	8	11	5	5	5	5
30,000	-44.5	-51	-8	-6	-4	-47	-2	1	2	-34	11	14	15	-45	-0	3	5	-45	-0	5	8	4	5	5	5
20,000	-21.2	-30	-9	-5	-1	-21	-1	2	4	-10	11	14	15	-20	1	4	6	-21	0	5	8	6	5	4	5
10,000	-4.6	-16	-11	-7	-5	-7	-1	1	3	5	10	12	13	-6	-1	3	5	-6	-1	3	6	6	5	4	5
ANKARA TO NAIROBI																									2696 N.MI.
55,000	-56.5	-72	-15	-11	-12	-71	-14	-12	-11	-71	-17	-15	-14	-73	-16	-14	-13	-72	-16	-13	-12	3	3	3	1
40,000	-56.5	-54	2	4	5	-55	3	6	7	-50	7	8	9	-55	3	5	5	-51	4	6	7	3	4	2	2
30,000	-44.5	-38	6	8	8	-35	9	11	12	-29	15	17	18	-34	11	12	13	-34	10	13	14	2	2	2	2
20,000	-21.2	-11	10	11	12	-10	12	13	14	-5	17	18	19	-8	13	14	15	-8	13	15	16	2	2	2	2
10,000	-4.6	4	9	11	12	6	11	13	14	12	17	18	18	8	13	14	15	8	12	14	15	3	2	2	2
ANKARA TO PARIS																									1398 N.MI.
55,000	-56.5	-56	0	4	5	-55	2	4	5	-54	2	4	6	-59	-2	0	1	-56	0	3	5	5	4	3	4
40,000	-56.5	-58	-1	2	4	-57	-0	1	5	-50	6	9	11	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-47	-2	0	1	-38	7	9	10	-41	2	4	6	-45	-0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-21	0	3	5	-12	9	11	12	-17	4	7	8	-19	2	6	8	5	4	3	4
10,000	-4.6	-11	-6	-1	-1	-5	-0	3	4	4	8	10	11	-1	3	6	8	-1	1	5	7	5	4	3	4
ANKARA TO ROME																									927 N.MI.
55,000	-56.5	-56	0	3	5	-56	1	3	4	-59	-2	-0	1	-60	-4	-1	-0	-58	-1	1	3	4	3	3	3
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-49	8	10	11	-56	0	2	4	-55	2	5	7	5	5	3	3
30,000	-44.5	-50	-6	-3	-2	-46	-2	1	2	-16	8	11	12	-42	3	5	6	-44	1	5	7	3	4	3	3
20,000	-21.2	-25	-4	-1	1	-20	1	4	5	-10	11	13	14	-15	6	8	9	-18	3	7	9	4	4	3	3
10,000	-4.6	-9	-5	-2	-0	-3	1	4	8	6	10	12	13	0	5	7	9	-2	3	6	8	4	4	3	3
ANKARA TO STOCKHOLM																									1301 N.MI.
55,000	-56.5	-56	0	3	5	-54	3	5	7	-51	6	8	9	-57	-1	2	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	3	-55	2	5	7	-49	7	10	12	-56	1	4	5	-54	2	6	6	5	5	4	4
30,000	-44.5	-52	-8	-5	-4	-48	-4	-1	1	-39	5	8	9	-44	0	3	4	-46	-1	3	5	4	4	4	4
20,000	-21.2	-28	-7	-1	-1	-23	-2	2	4	-13	8	10	11	-19	3	6	7	-21	0	4	6	5	5	3	5
10,000	-4.6	-14	-9	-5	-1	-7	-2	1	1	2	6	8	9	-4	1	4	6	-6	-1	3	5	6	5	3	5
ANKARA TO TEHERAN																									905 N.MI.
55,000	-56.5	-59	-2	1	2	-58	-1	1	2	-65	-8	-6	-5	-61	-5	-2	-1	-61	-4	-1	0	4	3	3	4
40,000	-56.5	-56	1	4	5	-55	1	5	7	-46	10	12	13	-56	0	3	4	-53	3	7	9	4	5	3	3
30,000	-44.5	-49	-4	-2	-1	-44	0	3	4	-10	15	17	18	-41	3	6	7	-41	4	8	10	3	3	3	3
20,000	-21.2	-23	-2	0	2	-18	1	6	7	-6	16	18	19	-15	7	9	10	-15	6	10	12	4	4	3	3
10,000	-4.6	-8	-3	0	2	-1	4	7	8	10	15	17	18	1	8	10	11	1	6	10	12	5	4	3	4
ANKARA TO TEL AVIV-JAFFA																									497 N.MI.
55,000	-56.5	-60	-4	-1	0	-57	-2	-0	1	-67	-10	-8	-7	-63	-6	-4	-3	-62	-6	-3	-1	4	3	3	3
40,000	-56.5	-56	1	4	5	-56	1	4	6	-47	10	12	13	-56	0	2	4	-54	3	6	8	4	5	3	3
30,000	-44.5	-48	-3	-1	-0	-44	0	2	4	-30	15	17	18	-40	4	6	7	-41	4	8	10	3	3	3	3
20,000	-21.2	-22	-1	2	3	-18	3	6	7	-6	15	17	18	-14	7	9	10	-15	6	10	12	4	4	3	3
10,000	-4.6	-6	-2	1	2	-1	4	7	8	10	14	16	17	4	8	10	12	2	6	9	11	4	4	2	3
ANKARA TO VIENNA																									852 N.MI.
55,000	-56.5	-56	1	4	5	-55	2	4	5	-55	2	4	5	-59	-2	-0	1	-56	0	3	4	5	3	3	4
40,000	-56.5	-57	-1	2	4	-56	0	4	5	-49	8	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-47	-2	0	1	-37	7	10	11	-43	2	4	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-2	-0	-21	0	3	5	-12	10	12	13	-17	5	7	8	-19	2	6	8	5	5	3	4
10,000	-4.6	-11	-7	-4	-2	-5	-0	3	4	4	8	10	11	-1	3	6	8	-3	1	5	7	5	5	3	4
ANKARA TO WARSAW																									876 N.MI.
55,000	-56.5	-56	1	4	5	-54	2	4	6	-53	4	6	7	-58	-2	1	2	-55	1	4	5	5	3	3	4
40,000	-56.5	-58	-1	2	4	-56	1	4	6	-49	8	10	12	-56	0	3	4	-55	2	6	8	5	5	4	4
30,000	-44.5	-52	-7	-5	-3	-47	-3	-0	1	-38	7	9	10	-43	1	4	5	-45	-0	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-0	3	5	-12	9	11	12	-17	4	7	8	-19	2	5	7	5	5	3	4
10,000	-4.6	-12	-8	-4	-2	-5	-1	3	4	3	8	10	11	-2	2	5	7	-4	0	4	6	5	5	3	4
ANKARA TO ZURICH																									1140 N.MI.
55,000	-56.5	-56	0	4	5	-55	1	4	5	-55	1	4	5	-59	-3	-0	1	-56	0	3	4	5	4	3	4
40,000	-56.5	-57	-1	2	4	-57	-0	3	5	-50	7	9	11	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-3	-47	-2	0	2	-37	7	9	11	-43	2	4	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-21	0	3	5	-12	10	12	13	-16	5	7	9	-19	2	6	8	5	4	3	4
10,000	-4.6	-11	-6	-1	-1	-5	-0	3	4	4	9	11	12	-1	4	6	8	-3	1	5	7	5	4	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STD DEV JAN	APR	JUL	OCT
ANTIGUA TO BARBADOS																									279 N.MI.
55,000	-56.5	-77	-21	-19	-18	-78	-21	-19	-19	-73	-16	-15	-14	-77	-20	-19	-18	-76	-20	-17	-16	3	3	2	3
40,000	-56.5	-54	3	5	6	-54	3	4	5	-55	1	2	3	-54	3	4	4	-54	2	4	4	3	2	2	2
30,000	-44.5	-54	10	12	13	-53	12	13	14	-54	11	12	12	-52	13	14	14	-53	11	13	13	2	2	1	2
20,000	-21.2	-7	14	15	16	-7	14	16	18	-7	14	15	16	-6	16	17	17	-7	15	16	16	2	2	1	1
10,000	-4.6	8	12	14	14	9	13	14	15	9	14	14	15	9	14	15	15	9	13	14	13	2	2	1	1
ANTIGUA TO BERMUDA																									925 N.MI.
55,000	-56.5	-73	-16	-15	-14	-72	-15	-13	-12	-70	-13	-12	-11	-74	-17	-15	-14	-72	-16	-14	-13	3	3	2	3
40,000	-56.5	-55	1	3	5	-56	0	2	3	-56	0	1	2	-55	2	3	4	-56	1	3	4	3	3	2	3
30,000	-44.5	-58	7	8	9	-57	8	9	10	-54	10	11	12	-54	11	12	13	-56	9	11	12	3	2	2	2
20,000	-21.2	-10	11	12	13	-10	12	13	14	-7	14	15	16	-7	14	15	16	-9	13	14	15	2	2	2	2
10,000	-4.6	5	10	11	12	5	10	11	12	8	13	14	14	8	12	13	14	6	11	12	13	3	2	1	2
ANTIGUA TO NEW YORK																									1560 N.MI.
55,000	-56.5	-70	-14	-12	-10	-68	-12	-10	-9	-68	-11	-10	-9	-71	-15	-13	-11	-69	-13	-11	-10	3	3	2	3
40,000	-56.5	-56	0	3	4	-57	-0	2	3	-56	1	2	3	-55	2	3	4	-56	1	3	4	4	4	2	3
30,000	-44.5	-60	4	6	7	-59	6	7	8	-54	10	11	12	-55	9	11	12	-57	7	9	10	3	3	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-8	14	15	16	-9	13	14	15	-10	11	13	14	3	3	2	2
10,000	-4.6	2	6	9	10	3	8	10	11	8	12	13	14	8	11	12	13	5	9	11	12	3	3	2	2
ANTIGUA TO POINTE A PITRE																									55 N.MI.
55,000	-56.5	-77	-20	-18	-17	-77	-21	-19	-18	-72	-16	-14	-14	-77	-20	-18	-17	-76	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	3	5	6	-54	2	4	5	-56	1	2	3	-54	3	4	4	-54	2	3	4	3	2	2	2
30,000	-44.5	-55	10	11	12	-53	11	12	13	-54	11	12	12	-52	12	14	14	-53	11	12	13	2	2	1	2
20,000	-21.2	-8	13	15	15	-7	14	15	16	-7	14	15	16	-6	15	16	17	-7	14	16	16	2	2	1	1
10,000	-4.6	8	12	13	14	8	13	14	15	9	13	14	15	9	14	14	15	8	13	14	15	2	2	1	1
ANTIGUA TO ST. CROIX																									176 N.MI.
55,000	-56.5	-76	-20	-18	-17	-77	-20	-18	-17	-72	-16	-14	-14	-77	-20	-18	-17	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	3	4	6	-54	2	4	5	-56	1	2	3	-54	3	4	4	-54	2	3	4	3	2	2	2
30,000	-44.5	-55	10	11	12	-53	11	12	13	-54	11	12	12	-52	12	13	14	-54	11	12	13	2	2	1	2
20,000	-21.2	-8	13	15	15	-7	14	15	16	-7	14	15	16	-8	15	16	17	-7	14	15	16	2	2	1	1
10,000	-4.6	7	12	13	14	8	13	14	14	9	13	14	15	9	13	14	15	8	13	14	14	2	2	1	1
ARUBA TO CARACAS																									211 N.MI.
55,000	-56.5	-78	-21	-19	-19	-78	-21	-19	-19	-73	-17	-15	-14	-77	-21	-19	-18	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-52	4	6	8	-55	1	3	3	-54	3	4	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-53	11	12	13	-51	13	15	15	-53	12	13	13	-51	13	14	15	-52	12	14	14	2	2	2	1
20,000	-21.2	-6	15	16	17	-5	16	17	18	-7	14	15	16	-6	16	17	17	-6	15	17	17	2	2	1	1
10,000	-4.6	9	13	14	15	9	14	15	16	9	14	15	15	10	14	15	18	9	14	15	15	2	2	1	1
ARUBA TO KINGSTON																									510 N.MI.
55,000	-56.5	-77	-21	-19	-16	-77	-20	-19	-18	-73	-16	-15	-14	-77	-21	-19	-18	-76	-20	-17	-16	3	3	2	3
40,000	-56.5	-54	3	4	5	-53	4	5	5	-56	1	2	3	-54	3	4	4	-54	2	4	5	3	2	2	2
30,000	-44.5	-54	10	12	12	-52	12	13	14	-53	11	12	13	-52	13	14	14	-53	12	13	13	2	2	1	1
20,000	-21.2	-7	14	15	16	-6	15	16	17	-7	14	15	16	-6	16	18	17	-6	15	18	16	2	2	1	1
10,000	-4.6	8	13	14	15	9	13	14	15	9	14	15	15	9	14	15	15	9	13	14	15	2	2	1	1
ARUBA TO MARACAIBO																									168 N.MI.
55,000	-56.5	-78	-21	-19	-18	-78	-21	-19	-18	-73	-17	-15	-14	-77	-21	-19	-18	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-52	4	6	6	-55	1	2	3	-54	3	4	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-53	11	12	13	-51	11	15	15	-51	12	13	13	-51	13	14	15	-52	12	14	14	2	2	2	1
20,000	-21.2	-6	15	16	17	-5	16	17	18	-7	14	15	18	-6	16	17	17	-6	15	17	17	2	2	1	1
10,000	-4.6	9	13	14	15	9	14	15	16	9	14	15	15	10	14	15	18	9	14	15	15	2	2	1	1
ARUBA TO MONTEGO BAY																									581 N.MI.
55,000	-56.5	-77	-21	-19	-18	-77	-20	-19	-18	-73	-16	-15	-14	-77	-21	-19	-18	-76	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	3	4	5	-53	4	5	5	-56	1	2	2	-54	3	4	4	-54	2	4	5	3	2	2	2
30,000	-44.5	-54	10	12	12	-52	12	13	14	-53	11	12	13	-52	13	14	14	-53	12	13	13	2	2	1	1
20,000	-21.2	-7	14	15	16	-6	15	16	17	-7	14	15	16	-8	15	16	17	-6	15	18	16	2	2	1	1
10,000	-4.6	8	13	14	14	9	13	14	15	9	14	15	15	9	14	15	15	9	13	14	15	2	2	1	1
ARUBA TO SAN JUAN																									425 N.MI.
55,000	-56.5	-77	-20	-19	-18	-77	-21	-19	-18	-73	-16	-15	-14	-77	-20	-19	-18	-76	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	3	5	5	-53	3	4	5	-56	1	2	3	-54	3	4	4	-54	2	4	5	3	2	2	2
10,000	-44.5	-14	10	12	12	-12	12	13	14	-53	11	12	13	-52	13	14	14	-53	12	13	13	2	2	1	1
20,000	-21.2	-7	14	15	16	-6	15	16	17	-7	14	15	16	-6	16	16	17	-6	15	16	16	2	2	1	1
10,000	-4.6	8	12	14	14	9	13	14	15	9	14	14	15	9	14	15	15	9	13	14	15	2	2	1	1
ASUNCION TO BELEM																									1525 N.MI.
55,000	-56.5	-76	-20	-17	-16	-75	-19	-17	-16	-69	-13	-10	-9	-71	-15	-13	-12	-73	-17	-13	-12	4	3	4	3
40,000	-56.5	-55	4	6	7	-52	5	7	8	-52	4	6	7	-54	3	5	6	-55	4	6	8	3	4	3	3
30,000	-44.5	-52	12	14	15	-51	13	15	16	-53	11	13	14	-12	13	15	16	-52	12	14	15	2	3	3	3
20,000	-21.2	-5	16	18	19	-6	16	17	18	-10	12	13	14	-7	15	18	17	-7	15	16	17	2	2	2	2
10,000	-4.6	10	14	16	16	9	14	15	16	6	11	12	13	9	14	15	16	9	13	15	16	2	2	2	2
ASUNCION TO BERMUDA																									3480 N.MI.
55,000	-56.5	-76	-20	-17	-16	-75	-19	-17	-16	-71	-14	-12	-11	-74	-17	-15	-14	-74	-17	-15	-13	3	3	3	3
40,000	-56.5	-54	3	5	6	-53	3	5	6	-54	2	4	5	-54	3	4	5	-54	3	5	6	3	3	2	2
30,000	-44.5	-54	11	12	13	-53	12	13	14	-53	11	13	13	-52	13	14	15	-53	12	13	14	2	2	2	2
20,000	-21.2	-7	15	16	17	-6	15	16	17	-8	13	14	15	-6	15	16	17	-7	14	16	16	2	2	2	2
10,000	-4.6	8	13	14	15	8	13	14	15	8	12	13	14	9	14	15	15	8	13	14	15	2	2	2	2
ASUNCION TO BOGOTA																									2042 N.MI.
55,000	-56.5	-77	-20	-18	-17	-76	-19	-17	-16	-71	-14	-12	-10	-73	-16	-14	-13	-74	-17	-14	-13	3	3	4	3
40,000	-56.5	-53	4	5	7	-52	5	7	8	-53	3	5	6	-54	3	4	5	-53	4	6	7	3	3	3	2
30,000	-44.5	-52	12	14	15	-51	13	15	16	-53	11	13	14	-52	13	14	15	-12	12	14	15	2	3	2	2
20,000	-21.2	-5	16	18	19	-5	16	17	18	-9	12	13	14	-6	15	16	17	-6	15	16	17	2	3	2	2
10,000	-4.6	10	14	16	16	9	14	15	16	7	11	13	14	9	14	15	16	9	13	15	16	2	2	2	2
ASUNCION TO BUENOS AIRES																									576 N.MI.
55,000	-56.5	-67	-11	-8	-7	-67	-10	-7	-6	-61	-4	-1	0	-62	-5	-2	-1	-64	-8	-4	-2	4	4	4	4
40,000	-56.5	-53	4	7	8	-55	2	5	7	-52	5	7	9	-54	3	5	7	-53	3	6	8	4	5	4	4
30,000	-44.5	-57	7	10	11	-58	7	9	10	-42	2	5	6	-57	7	10	11	-59	6	9	10	3	3	4	4
20,000	-21.2	-9	12	14	15	-12	10	12	11	-18	4	6	7	-11	10	12	14	-12	9	12	13	3	3	3	3
10,000	-4.6	8	13	15	16	5	10	12	13	-0	4	6	7	4	8	10	11	4	9	11	13	3	3	3	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
ASUNCION TO CAPETOWN																									3916 N.MI.
53,000	-56.5	-64	-7	-4	-3	-63	-7	-4	-3	-58	-1	2	3	-60	-3	-0	1	-61	-5	-1	1	4	4	4	4
40,000	-56.5	-54	3	6	7	-56	1	4	5	-52	4	7	9	-54	3	6	7	-54	3	6	8	5	4	4	4
30,000	-44.5	-39	6	8	9	-39	6	8	9	-44	0	3	5	-40	5	7	9	-40	4	7	8	4	4	4	4
20,000	-21.2	-31	10	12	14	-14	7	10	11	-19	2	5	6	-14	8	10	11	-14	7	10	11	4	3	4	4
10,000	-4.6	5	10	12	13	3	8	10	11	-2	3	5	6	2	7	9	10	2	7	9	13	3	3	3	4
ASUNCION TO CARACAS																									2222 N.MI.
53,000	-56.5	-77	-20	-18	-37	-76	-19	-17	-36	-71	-14	-12	-11	-73	-17	-15	-14	-74	-16	-15	-13	3	3	3	3
40,000	-56.5	-53	3	5	6	-52	5	7	8	-53	3	5	6	-54	3	4	5	-53	3	6	7	3	3	3	2
30,000	-44.5	-32	12	14	15	-31	13	15	16	-33	12	13	14	-31	13	15	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-5	16	18	18	-5	16	17	18	-9	12	13	14	-6	15	16	17	-6	15	17	17	2	2	2	2
10,000	-4.6	10	14	16	16	9	14	15	16	7	12	13	14	9	14	15	16	9	14	15	16	2	2	2	2
ASUNCION TO DAKAR																									3353 N.MI.
53,000	-56.5	-77	-20	-18	-17	-76	-20	-18	-17	-71	-15	-13	-11	-74	-18	-16	-15	-75	-18	-15	-14	3	3	3	3
40,000	-56.5	-53	3	5	6	-53	4	6	8	-53	3	5	6	-53	3	5	6	-53	3	6	7	3	4	2	2
30,000	-44.5	-33	12	13	14	-31	13	15	16	-33	12	13	14	-32	13	14	15	-32	12	14	15	2	2	2	2
20,000	-21.2	-6	15	17	17	-6	15	17	17	-8	13	15	15	-6	15	16	17	-7	15	16	17	2	2	2	2
10,000	-4.6	9	14	15	16	9	14	15	16	7	12	13	14	10	14	16	16	9	13	15	16	2	2	2	2
ASUNCION TO HAVANA																									3237 N.MI.
53,000	-56.5	-77	-20	-18	-17	-76	-19	-17	-16	-72	-15	-13	-12	-74	-18	-16	-15	-75	-18	-16	-14	3	3	3	3
40,000	-56.5	-53	3	5	6	-52	4	6	7	-54	2	4	5	-54	3	4	5	-53	3	5	6	3	3	2	2
30,000	-44.5	-33	12	13	14	-32	13	14	15	-33	11	13	14	-32	13	14	15	-32	12	34	15	2	2	2	2
20,000	-21.2	-6	16	17	18	-5	16	17	18	-8	13	14	14	-6	15	16	17	-6	15	16	17	2	2	2	2
10,000	-4.6	9	14	15	16	9	14	15	16	8	12	14	14	9	14	15	16	9	13	15	15	2	2	2	2
ASUNCION TO HOUSTON																									3946 N.MI.
53,000	-56.5	-76	-20	-18	-17	-75	-19	-17	-16	-72	-15	-13	-12	-75	-18	-16	-15	-74	-18	-16	-14	3	3	3	3
40,000	-56.5	-54	3	4	5	-53	4	6	7	-54	2	4	4	-54	2	4	5	-54	3	5	6	3	3	2	2
30,000	-44.5	-34	11	12	13	-33	12	13	14	-33	12	13	14	-32	12	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-6	15	17	17	-8	13	14	15	-6	15	16	17	-7	15	16	17	2	2	2	2
10,000	-4.6	9	13	15	15	9	13	15	16	8	13	14	14	9	14	15	16	9	13	15	15	2	2	2	2
ASUNCION TO LA PAZ																									795 N.MI.
53,000	-56.5	-74	-18	-15	-14	-73	-17	-14	-13	-67	-11	-8	-7	-68	-11	-9	-8	-71	-14	-11	-9	4	3	4	3
40,000	-56.5	-52	4	7	8	-53	4	6	8	-52	5	7	8	-54	3	5	6	-54	4	6	7	4	4	3	3
30,000	-44.5	-33	12	14	15	-34	11	13	14	-36	9	11	12	-34	11	13	14	-34	11	13	14	3	3	3	3
20,000	-21.2	-6	15	17	18	-7	14	15	16	-12	9	11	12	-8	13	15	15	-8	13	15	16	2	2	3	2
10,000	-4.6	9	14	15	16	8	12	14	15	4	9	10	11	7	12	14	14	7	12	14	15	2	2	2	2
ASUNCION TO LIMA																									1357 N.MI.
53,000	-56.5	-75	-18	16	-14	-74	-18	-15	-14	-68	-12	-9	-8	-69	-12	-10	-9	-72	-15	-12	-10	4	3	4	4
40,000	-56.5	-52	4	6	8	-53	4	6	8	-52	4	6	7	-54	3	5	6	-53	4	6	7	3	4	3	3
30,000	-44.5	-32	12	14	15	-33	11	13	14	-35	10	12	13	-33	11	13	14	-33	11	13	14	3	3	3	3
20,000	-21.2	-6	15	17	18	-7	14	16	17	-11	10	11	12	-8	14	15	16	-8	13	15	16	2	2	2	2
10,000	-4.6	9	14	15	16	8	13	14	15	5	10	11	12	8	12	14	14	7	32	14	15	2	2	2	2
ASUNCION TO LISBON																									4703 N.MI.
53,000	-56.5	-74	-17	-15	-14	-73	-16	-14	-13	-70	-14	-12	-11	-73	-16	-14	-13	-72	-16	-13	-12	4	3	3	3
40,000	-56.5	-55	2	4	5	-54	2	5	6	-53	4	5	6	-54	3	4	5	-54	3	4	5	3	4	2	3
30,000	-44.5	-36	9	30	11	-34	11	12	13	-34	11	12	13	-33	11	13	14	-34	10	12	13	2	2	2	2
20,000	-21.2	-9	12	14	15	-8	13	14	15	-8	13	14	15	-7	14	15	16	-8	13	15	15	2	2	2	2
10,000	-4.6	7	12	13	14	7	12	13	14	8	13	14	15	8	13	14	15	8	12	14	14	2	2	2	2
ASUNCION TO LONDON																									5494 N.MI.
53,000	-56.5	-71	-15	-12	-11	-70	-13	-11	-10	-67	-11	-9	-7	-70	-14	-12	-11	-70	-13	-10	-9	4	3	3	3
40,000	-56.5	-55	1	4	5	-55	2	5	6	-53	3	5	6	-54	2	4	5	-54	2	4	5	4	4	3	3
30,000	-44.5	-38	7	8	9	-36	8	10	11	-35	10	12	12	-35	10	12	13	-36	9	11	12	3	3	2	3
20,000	-21.2	-11	10	12	13	-10	11	13	14	-9	12	14	15	-9	12	14	15	-10	31	13	14	3	3	2	2
10,000	-4.6	5	9	11	12	5	10	11	12	7	12	13	14	7	11	13	14	6	11	12	13	3	3	2	2
ASUNCION TO LOS ANGELES																									4962 N.MI.
53,000	-56.5	-75	-19	-17	-16	-74	-18	-16	-15	-72	-15	-13	-12	-74	-18	-16	-15	-74	-17	-15	-14	3	1	3	3
40,000	-56.5	-54	2	4	6	-54	3	5	6	-54	2	4	5	-54	2	4	5	-54	2	5	6	3	3	2	2
30,000	-44.5	-35	10	11	12	-34	10	12	13	-33	11	13	14	-33	12	13	14	-34	11	12	13	2	2	2	2
20,000	-21.2	-8	14	15	16	-7	14	16	16	-8	13	14	15	-7	14	16	16	-7	14	15	16	2	2	2	2
10,000	-4.6	8	12	14	15	9	13	15	16	9	13	14	15	9	14	15	16	9	13	15	15	2	2	2	2
ASUNCION TO MADRID																									4958 N.MI.
53,000	-56.5	-73	-17	-14	-13	-72	-16	-14	-13	-70	-14	-11	-10	-72	-16	-14	-13	-72	-15	-13	-12	4	3	3	3
40,000	-56.5	-55	2	4	5	-54	2	5	6	-53	4	5	6	-54	3	4	5	-54	3	4	5	4	4	2	3
30,000	-44.5	-36	8	10	11	-34	10	12	13	-34	11	12	13	-33	11	13	14	-34	10	12	13	2	2	2	2
20,000	-21.2	-9	12	13	14	-9	13	14	15	-8	13	14	15	-8	14	15	16	-8	13	14	15	2	2	2	2
10,000	-4.6	7	11	13	13	7	11	13	14	8	13	14	15	8	13	14	15	7	32	13	14	2	2	2	2
ASUNCION TO MEXICO CITY																									3615 N.MI.
53,000	-56.5	-77	-20	-18	-17	-76	-20	-18	-17	-72	-16	-13	-12	-75	-18	-16	-15	-75	-18	-16	-14	3	3	3	3
40,000	-56.5	-53	3	5	6	-53	4	6	7	-54	2	4	5	-54	3	4	5	-54	3	5	6	3	3	2	2
30,000	-44.5	-33	12	13	14	-32	12	14	15	-33	11	13	14	-32	13	14	15	-32	12	14	14	2	2	2	2
20,000	-21.2	-6	16	17	18	-5	16	17	18	-8	13	14	15	-6	15	16	17	-6	15	16	17	2	2	2	2
10,000	-4.6	9	14	15	16	9	14	15	16	8	12	14	14	9	14	15	16	9	14	15	55	2	2	2	2
ASUNCION TO MIAMI																									3335 N.MI.
53,000	-56.5	-77	-20	-18	-17	-76	-19	-17	-16	-71	-15	-13	-12	-74	-18	-16	-15	-75	-18	-15	-14	3	3	3	3
40,000	-56.5	-54	3	5	6	-52	4	6	7	-54	2	4	5	-54	3	4	5	-53	3	5	6	3	3	2	2
30,000	-44.5	-33	11	13	14	-32	13	14	15	-33	11	13	14	-32	13	14	15	-32	12	14	14	2	2	2	2
20,000	-21.2	-6	15	17	18	-6	16	17	18	-8	13	14	15	-6	15	16	17	-6	15	16	17	2	2	2	2
10,000	-4.6	9	14	15	16	9	14	15	16	8	12	14	14	9	14	15	16	9	13	15	15	2	2	2	2
ASUNCION TO NATAL																									1726 N.MI.
53,000	-56.5	-76	-19	-17	-15	-75	-19	-16	-15	-69	-12	-10	-8	-71	-14	-12	-11	-73	-16	-13	-11	4	3	4	3
40,000	-56.5	-53	4	6	7	-52	4	7	8	-52	4	6	7	-53	3	5	6	-53	4	6	7	3	4	3	3
30,000	-44.5	-32	32	14	15	-32	12	14	15	-34	11	13	14	-32	12	14	15	-33	12	14	15	3	3	3	3
20,000	-21.2	-5	16	18	18	-6	15	16	17	-10	12	13	14	-7	14	16	17	-7	14	16	17	2	2	2	2
10,000	-4.6	9	14	15	16	9	14	15	16	6	10	12	13	9	14	15	16	8	13	15	15	2	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
ASUNCION TO NEW ORLEANS																									3797 N.MI.
53,000	-56.5	-76	-20	-18	-17	-75	-19	-17	-16	-72	-15	-13	-12	-75	-18	-16	-15	-74	-18	-15	-14	3	3	3	3
40,000	-56.5	-54	3	4	5	-53	4	6	7	-54	2	4	4	-54	2	4	5	-54	3	5	6	3	3	2	2
30,000	-44.5	-34	11	12	13	-32	12	13	14	-33	12	13	14	-32	12	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-6	15	17	17	-8	13	14	15	-6	15	16	17	-7	15	16	17	2	2	2	2
10,000	- 4.6	9	13	15	15	9	13	15	16	8	13	14	14	9	14	15	16	9	13	15	15	2	2	2	2
ASUNCION TO NEW YORK																									4056 N.MI.
53,000	-56.5	-75	-18	-16	-15	-73	-17	-15	-14	-70	-14	-12	-10	-73	-17	-15	-13	-73	-16	-14	-12	3	3	3	3
40,000	-56.5	-54	2	4	5	-54	3	5	6	-54	2	4	4	-54	2	4	5	-54	2	5	6	3	3	2	2
30,000	-44.5	-35	9	11	12	-34	11	12	13	-33	11	12	13	-33	12	13	14	-34	11	12	13	2	2	2	2
20,000	-21.2	-8	13	15	16	-8	14	15	16	-8	13	14	15	-7	14	16	16	-8	14	15	16	2	2	2	2
10,000	- 4.6	7	11	13	14	7	12	13	14	8	12	13	14	8	13	14	15	7	12	14	14	2	2	2	2
ASUNCION TO PANAMA																									2424 N.MI.
53,000	-56.5	-77	-20	-18	-17	-76	-19	[illegible]	-16	-71	-15	-12	-11	-73	-17	-15	-14	-74	-18	-15	-13	3	3	3	3
40,000	-56.5	-55	3	5	6	-52	5	7	8	-55	3	5	6	-54	3	4	5	-55	3	6	7	3	3	3	2
30,000	-44.5	-32	12	14	15	-31	13	15	16	-33	11	13	14	-32	13	14	15	-32	12	14	15	2	2	2	2
20,000	-21.2	-5	16	18	18	-5	16	17	18	-9	12	13	14	-6	15	16	17	-6	15	16	17	2	2	2	2
10,000	- 4.6	10	14	15	16	9	14	15	16	7	12	13	14	9	14	15	16	9	13	15	16	2	2	2	2
ASUNCION TO QUITO																									1936 N.MI.
53,000	-56.5	-76	-20	-17	-16	-75	-19	-17	-16	-70	-14	-11	-10	-72	-15	-13	-12	-73	-17	-14	-12	3	3	4	3
40,000	-56.5	-53	4	6	7	-52	4	7	8	-53	4	5	6	-54	3	4	5	-53	4	6	7	3	4	3	3
30,000	-44.5	-32	12	14	15	-32	13	14	15	-34	11	13	14	-32	12	14	15	-32	12	14	15	2	3	3	2
20,000	-21.2	-5	16	18	18	-6	16	17	18	-10	11	13	14	-7	14	16	17	-7	14	16	17	2	2	2	2
10,000	- 4.6	10	14	15	16	9	13	15	16	7	11	12	13	9	13	15	15	8	13	15	15	2	2	2	2
ASUNCION TO RIO DE JANEIRO																									795 N.MI.
53,000	-56.5	-73	-16	-13	-12	-71	-15	-12	-11	-65	-8	-6	-4	-66	-9	-7	-6	-69	-12	-9	-7	4	4	4	4
40,000	-56.5	-52	5	7	9	-53	3	6	8	-52	5	7	8	-54	3	5	7	-53	4	6	8	4	4	3	4
30,000	-44.5	-34	11	13	14	-35	10	12	13	-38	7	9	10	-35	9	12	13	-35	9	12	13	3	3	3	3
20,000	-21.2	-6	15	17	18	-9	12	14	15	-13	8	10	12	-9	12	14	15	-9	12	15	16	3	3	3	3
10,000	- 4.6	9	14	15	16	8	12	14	15	3	8	9	10	7	12	13	14	7	11	13	14	2	3	2	3
ASUNCION TO SAN FRANCISCO																									5250 N.MI.
53,000	-56.5	-75	-18	-16	-15	-73	-17	-15	-14	-71	-15	-13	-12	-74	-17	-15	-14	-73	-17	-15	-13	3	3	3	3
40,000	-56.5	-54	2	4	6	-54	2	5	6	-54	2	4	5	-54	2	4	5	-54	2	4	6	3	3	2	2
30,000	-44.5	-36	9	10	11	-35	10	11	12	-33	11	13	14	-33	11	13	14	-34	10	12	13	2	2	2	2
20,000	-21.2	-8	13	15	16	-8	14	15	16	-8	13	15	15	-7	14	15	16	-8	13	15	16	3	2	2	2
10,000	- 4.6	7	12	13	14	8	13	14	15	9	13	15	15	9	13	15	16	8	13	14	15	3	3	2	2
ASUNCION TO SAN JUAN																									2667 N.MI.
53,000	-56.5	-77	-21	-18	-17	-76	-20	-18	-17	-71	-15	-12	-11	-74	-17	-16	-14	-75	-18	-15	-14	3	3	3	3
40,000	-56.5	-55	3	5	6	-52	4	6	8	-54	3	4	5	-54	3	4	5	-53	3	6	7	3	3	2	2
30,000	-44.5	-33	12	13	14	-31	13	15	16	-33	11	13	14	-31	13	15	15	-32	12	14	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	16	17	18	-9	13	14	14	-6	15	16	17	-6	15	16	17	2	2	2	2
10,000	- 4.6	9	14	15	16	9	14	15	16	8	12	13	14	9	14	15	16	9	14	15	16	2	2	2	2
ASUNCION TO SANTA MARIA																									4158 N.MI.
53,000	-56.5	-74	-18	-16	-14	-74	-17	-15	-14	-70	-14	-12	-11	-73	-17	-15	-14	-73	-16	-14	-12	3	3	3	3
40,000	-56.5	-55	2	4	5	-54	2	5	6	-53	3	5	6	-54	3	4	5	-54	3	4	5	3	4	2	2
30,000	-44.5	-35	9	11	12	-33	11	13	13	-34	11	12	13	-33	12	13	14	-34	11	13	14	2	2	2	2
20,000	-21.2	-8	13	15	15	-8	14	15	16	-8	13	14	15	-7	14	16	16	-8	13	15	16	2	2	2	2
10,000	- 4.6	7	12	13	14	7	12	13	14	8	12	13	14	9	13	15	15	8	12	14	15	2	2	2	2
ASUNCION TO SANTIAGO																									847 N.MI.
53,000	-56.5	-68	-11	-9	-7	-67	-11	-8	-7	-61	-5	-2	-0	-62	-6	-3	-1	-65	-8	-4	-3	4	4	4	4
40,000	-56.5	-53	4	7	8	-55	2	5	6	-52	5	7	9	-54	3	5	7	-53	3	6	8	4	5	4	4
30,000	-44.5	-37	7	10	11	-37	7	9	10	-42	3	5	6	-37	8	10	11	-38	6	9	10	3	3	3	3
20,000	-21.2	-9	13	15	16	-11	10	12	13	-18	3	6	7	-10	11	13	14	-12	9	12	13	3	3	3	3
10,000	- 4.6	8	13	14	15	5	9	11	12	-0	4	6	7	3	8	10	11	4	9	11	13	3	3	3	3
ATHENS TO BANGKOK																									4274 N.MI.
53,000	-56.5	-67	-10	-8	-6	-65	-8	-6	-4	-71	-14	-11	-10	-68	-11	-9	-7	-68	-11	-8	-6	4	4	4	4
40,000	-56.5	-55	1	4	6	-54	2	6	7	-48	8	11	12	-55	2	4	6	-53	3	7	9	4	5	4	4
30,000	-44.5	-42	3	5	7	-39	6	8	10	-28	16	19	20	-36	8	10	12	-36	8	12	14	4	4	3	3
20,000	-21.2	-17	5	7	8	-12	7	11	12	-4	17	19	20	-10	11	13	14	-11	10	14	15	4	4	3	3
10,000	- 4.6	-1	4	6	8	5	9	11	13	12	17	18	19	6	10	12	14	5	10	13	15	4	3	2	3
ATHENS TO BASRA																									1267 N.MI.
53,000	-56.5	-62	-5	-2	-1	-60	-4	-1	-0	-68	-12	-10	-9	-64	-7	-5	-4	-63	-7	-4	-3	4	3	3	4
40,000	-56.5	-55	1	4	6	-56	1	4	6	-46	10	12	13	-56	1	3	4	-53	3	7	8	4	5	3	3
30,000	-44.5	-47	-2	-0	1	-43	1	3	4	-29	16	18	19	-40	5	7	8	-40	5	9	11	3	3	3	3
20,000	-21.2	-21	0	3	4	-17	4	6	8	-5	16	18	19	-13	8	10	11	-14	7	11	13	4	4	3	3
10,000	- 4.6	-5	-1	2	3	0	5	8	9	11	16	17	18	5	9	11	12	3	7	11	12	4	4	2	3
ATHENS TO BEIRUT																									621 N.MI.
53,000	-56.5	-60	-4	-1	0	-59	-2	0	1	-67	-10	-8	-7	-63	-6	-4	-3	-62	-5	-3	-1	4	3	3	3
40,000	-56.5	-56	1	4	5	-56	0	3	5	-47	9	11	12	-56	0	2	3	-54	3	6	8	4	5	3	3
30,000	-44.5	-48	-3	-1	-0	-45	-0	2	3	-31	14	16	17	-41	4	6	7	-41	4	8	10	3	3	3	3
20,000	-21.2	-22	-1	2	3	-18	3	6	7	-7	14	16	17	-14	7	9	10	-15	6	9	11	4	4	3	3
10,000	- 4.6	-6	-2	1	2	-1	4	6	8	9	13	15	16	3	8	10	11	1	6	9	11	4	4	2	3
ATHENS TO BELGRADE																									441 N.MI.
53,000	-56.5	-57	-0	3	5	-56	1	3	4	-58	-2	0	1	-60	-4	-1	-0	-58	-1	1	3	4	3	3	3
40,000	-56.5	-57	-0	3	5	-57	-1	3	4	-49	8	10	11	-56	0	2	4	-55	2	5	7	5	5	3	4
30,000	-44.5	-50	-6	-4	-2	-46	-2	1	2	-36	8	10	12	-42	3	5	6	-44	1	5	7	3	3	3	3
20,000	-21.2	-25	-4	-1	1	-20	1	4	5	-10	11	13	14	-16	6	8	9	-18	3	7	9	4	4	3	3
10,000	- 4.6	-10	-5	-2	-1	-4	1	4	5	5	10	12	13	0	5	7	8	-2	3	6	8	4	4	3	3
ATHENS TO BENGHAZI																									587 N.MI.
53,000	-56.5	-61	-4	-2	-1	-59	-3	-1	1	-66	-10	-8	-7	-63	-7	-4	-3	-62	-6	-3	-2	4	3	3	3
40,000	-56.5	-56	1	4	6	-57	-1	3	5	-48	9	11	12	-56	0	2	4	-54	2	6	7	5	5	3	3
30,000	-44.5	-47	-3	-1	0	-44	1	3	4	-52	12	14	16	-40	4	6	7	-41	4	7	9	3	3	3	3
20,000	-21.2	-21	-0	2	4	-17	4	6	8	-7	14	16	16	-14	8	9	10	-15	6	10	11	4	4	2	2
10,000	- 4.6	-5	-1	2	3	-0	4	7	8	9	13	15	16	3	8	10	11	2	6	9	11	4	4	2	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
ATHENS TO BOMBAY																									2788 N.MI.
51,000	-56.5	-66	-10	-7	-6	-65	-9	-6	-5	-71	-15	-12	-11	-68	-12	-9	-8	-68	-11	-8	-7	4	4	3	4
40,000	-56.5	-55	2	5	6	-54	2	6	7	-47	10	12	13	-55	2	4	5	-53	4	7	9	4	5	3	4
30,000	-44.5	-42	2	5	6	-40	5	7	9	-27	17	19	20	-37	8	10	11	-37	8	12	14	4	4	3	3
20,000	-21.2	-17	4	6	8	-13	8	10	12	-4	17	19	20	-10	11	13	14	-11	10	13	15	3	5	3	3
10,000	-4.6	-1	4	6	7	5	9	11	13	13	18	20	20	6	11	13	14	6	10	13	15	3	3	2	3
ATHENS TO CAIRO																									602 N.MI.
55,000	-56.5	-62	-5	-3	-2	-60	-4	-2	-0	-68	-11	-9	-8	-64	-8	-5	-4	-64	-7	-4	-3	4	3	3	3
40,000	-56.5	-53	1	4	6	-56	0	3	5	-47	9	11	12	-56	1	3	4	-54	3	6	8	4	5	3	3
30,000	-44.5	-47	-2	-0	1	-45	1	3	4	-30	15	17	18	-40	5	7	8	-40	5	9	11	3	3	3	3
20,000	-21.2	-21	1	3	4	-17	4	7	8	-6	15	17	18	-13	8	10	11	-14	7	10	12	4	4	3	2
10,000	-4.6	-5	-0	2	4	-0	4	7	8	10	14	16	17	4	9	11	12	2	7	10	12	4	4	2	3
ATHENS TO CALCUTTA																									3408 N.MI.
55,000	-56.5	-64	-7	-4	-3	-62	-5	-3	-2	-69	-12	-9	-8	-65	-9	-6	-5	-65	-8	-5	-4	4	4	4	4
40,000	-56.5	-55	1	4	6	-55	2	5	7	-47	9	12	14	-55	2	4	6	-53	4	7	9	5	5	4	4
30,000	-44.5	-44	0	3	4	-41	3	6	8	-28	16	19	20	-38	7	9	11	-38	7	11	13	4	4	4	4
20,000	-21.2	-19	2	4	6	-14	7	9	11	-4	17	19	20	-12	9	12	14	-12	9	13	15	4	4	3	3
10,000	-4.6	-3	1	4	5	3	8	10	11	12	17	19	20	5	10	12	13	4	9	12	14	4	4	3	3
ATHENS TO COLOMBO																									3565 N.MI.
55,000	-56.5	-71	-14	-12	-11	-70	-13	-11	-9	-75	-17	-14	-13	-72	-16	-14	-12	-71	-15	-12	-11	3	3	3	3
40,000	-56.5	-55	2	4	6	-53	3	6	8	-48	8	10	12	-54	2	4	5	-53	4	7	8	4	4	3	3
30,000	-44.5	-39	6	8	9	-37	6	10	11	-28	17	18	19	-35	10	11	12	-35	10	13	15	3	3	3	3
20,000	-21.2	-13	8	10	11	-11	11	12	13	-4	17	19	20	-9	12	14	15	-9	12	15	16	3	3	3	2
10,000	-4.6	2	7	9	10	6	11	13	14	13	17	19	19	7	12	13	14	7	12	14	16	3	3	2	2
ATHENS TO DAMASCUS																									664 N.MI.
55,000	-56.5	-60	-4	-1	0	-59	-2	-0	1	-67	-10	-8	-7	-61	-6	-4	-3	-62	-6	-3	-1	4	3	3	3
40,000	-56.5	-56	1	4	5	-56	0	4	5	-47	10	11	13	-56	0	2	3	-54	3	6	8	4	5	3	3
30,000	-44.5	-46	-3	-1	-0	-44	0	2	3	-30	14	16	17	-41	4	6	7	-41	4	8	10	3	3	3	3
20,000	-21.2	-22	-1	2	3	-14	3	6	7	-7	15	16	17	-14	7	9	10	-15	6	10	11	4	4	3	1
10,000	-4.6	-6	-2	1	2	-1	4	6	8	9	14	15	16	4	8	10	11	1	6	9	11	4	4	2	3
ATHENS TO DHAHRAN																									1306 N.MI.
55,000	-56.5	-64	-7	-5	-3	-62	-6	-4	-2	-70	-13	-11	-10	-66	-9	-7	-4	-65	-9	-6	-5	4	3	3	3
40,000	-56.5	-55	2	4	6	-55	1	5	6	-47	10	12	13	-55	1	3	4	-53	4	7	8	4	5	3	3
30,000	-44.5	-45	-1	1	3	-42	3	5	6	-28	17	18	19	-38	6	8	9	-38	6	10	12	3	3	3	3
20,000	-21.2	-19	2	4	5	-16	5	8	9	-4	17	19	20	-12	9	11	12	-13	8	12	14	3	3	3	2
10,000	-4.6	-3	1	4	5	2	6	9	10	12	17	19	19	5	10	12	13	4	9	12	14	4	4	2	3
ATHENS TO DUSSELDORF																									1077 N.MI.
55,000	-56.5	-56	0	3	5	-55	1	4	5	-55	1	4	5	-59	-1	-0	1	-56	0	3	4	5	4	3	4
40,000	-56.5	-56	-1	2	4	-57	-0	3	5	-50	6	9	10	-56	0	1	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-47	-2	0	1	-36	6	9	10	-45	2	4	6	-45	-0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-1	0	-21	0	3	4	-12	9	11	12	-17	5	7	9	-19	2	6	8	5	4	3	4
10,000	-4.6	-10	-5	-2	-0	-5	-0	3	4	4	8	11	12	-1	4	6	8	-3	2	5	7	5	4	3	4
ATHENS TO FRANKFURT																									976 N.MI.
55,000	-56.5	-56	0	3	5	-55	1	4	5	-56	1	3	4	-59	-3	-1	1	-57	-0	3	4	5	4	3	4
40,000	-56.5	-57	-1	2	4	-57	-1	3	5	-50	6	9	10	-56	0	3	4	-55	1	5	7	5	5	4	4
10,000	-44.5	-50	-6	-1	-2	-47	-2	0	2	-38	7	9	10	-42	2	5	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-21	0	3	5	-12	10	12	13	-16	5	7	9	-19	3	6	8	5	4	3	4
10,000	-4.6	-10	-5	-2	-0	-5	-0	3	4	4	9	11	12	-1	4	6	8	-1	2	5	7	5	4	3	4
ATHENS TO GENEVA																									928 N.MI.
55,000	-56.5	-57	-0	3	5	-56	1	3	4	-57	-1	1	2	-60	-4	-1	0	-58	-1	2	3	5	4	3	3
40,000	-56.5	-57	-1	3	4	-58	-1	2	4	-51	6	8	10	-56	0	3	4	-56	1	4	6	5	5	4	4
30,000	-44.5	-50	-5	-3	-1	-46	-2	1	2	-37	7	10	11	-42	3	5	6	-44	1	4	6	4	4	3	4
20,000	-21.2	-25	-4	-1	1	-20	1	4	5	-11	10	12	13	-16	5	8	9	-18	3	7	8	5	4	3	3
10,000	-4.6	-8	-4	-1	1	-4	1	4	5	5	10	12	13	-0	5	7	8	-2	3	6	8	4	4	3	4
ATHENS TO ISTANBUL																									299 N.MI.
55,000	-56.5	-57	-1	2	4	-57	-0	2	3	-61	-5	-3	-1	-61	-4	-2	-1	-59	-2	0	2	4	3	3	3
40,000	-56.5	-56	0	3	5	-57	-0	3	5	-48	9	11	12	-56	0	2	3	-54	2	6	8	5	5	3	3
30,000	-44.5	-50	-5	-3	-2	-46	-1	1	2	-34	10	12	14	-41	3	5	6	-43	2	6	8	3	3	3	3
20,000	-21.2	-24	-3	-0	1	-20	2	4	6	-9	12	14	15	-15	6	8	9	-17	4	8	9	4	4	3	3
10,000	-4.6	-9	-4	-1	0	-3	2	5	8	6	11	13	14	1	6	8	9	-1	4	7	9	4	4	3	3
ATHENS TO KANO																									1752 N.MI.
55,000	-56.5	-69	-13	-11	-10	-67	-11	-9	-8	-72	-16	-14	-13	-71	-14	-12	-11	-70	-13	-11	-10	3	3	3	3
40,000	-56.5	-54	2	5	6	-54	2	5	7	-50	6	8	9	-54	2	4	5	-55	3	5	7	4	4	2	2
30,000	-44.5	-42	2	4	5	-37	7	9	10	-30	14	16	17	-36	9	10	11	-36	8	11	12	2	2	2	2
20,000	-21.2	-15	6	8	9	-12	9	11	12	-5	16	17	18	-10	12	13	13	-10	11	13	14	3	3	2	2
10,000	-4.6	2	6	8	9	5	10	12	11	12	17	18	19	7	12	13	14	7	11	14	15	3	3	2	2
ATHENS TO KARACHI																									2332 N.MI.
55,000	-56.5	-64	-7	-5	-3	-63	-6	-4	-3	-70	-13	-11	-10	-66	-10	-7	-6	-66	-9	-6	-5	4	3	3	4
40,000	-56.5	-55	2	5	6	-55	2	5	7	-47	10	12	13	-55	1	4	5	-55	4	7	9	4	5	3	3
10,000	-44.5	-44	0	3	4	-41	3	6	7	-28	17	19	20	-38	7	9	10	-38	7	11	13	4	4	3	3
20,000	-21.2	-19	2	4	6	-15	7	9	10	-4	17	19	20	-12	10	11	12	-12	9	13	14	4	3	3	3
10,000	-4.6	-3	1	4	5	3	8	10	11	13	18	19	20	6	10	12	13	5	9	13	14	4	4	2	3
ATHENS TO KHARTOUM																									1417 N.MI.
55,000	-56.5	-68	-12	-10	-9	-67	-10	-8	-7	-72	-15	-14	-13	-70	-14	-12	-11	-69	-13	-10	-9	3	3	3	3
40,000	-56.5	-54	2	5	6	-55	2	5	6	-49	8	9	10	-54	2	4	5	-53	4	6	7	3	4	2	3
30,000	-44.5	-43	2	4	5	-38	7	8	9	-29	16	18	18	-36	8	10	11	-16	8	11	13	3	2	3	2
20,000	-21.2	-15	6	8	9	-13	9	11	12	-5	16	18	19	-10	11	13	13	-11	11	13	15	3	3	2	2
10,000	-4.6	1	6	8	9	4	9	11	12	12	17	18	19	7	12	13	14	6	11	13	15	3	3	2	2
ATHENS TO LISBON																									1539 N.MI.
55,000	-56.5	-59	-2	1	3	-58	-1	2	3	-61	-5	-2	-1	-61	-5	-3	-1	-60	-3	-0	2	5	4	3	3
40,000	-56.5	-57	-1	3	5	-58	-1	2	4	-51	6	8	9	-56	0	3	4	-56	1	4	6	5	5	3	4
30,000	-44.5	-48	-3	-1	0	-45	-1	2	3	-36	8	10	12	-41	3	6	7	-43	2	5	7	3	4	3	4
20,000	-21.2	-22	-1	2	4	-18	3	5	6	-10	11	13	14	-14	7	9	10	-16	5	8	10	4	3	3	3
10,000	-4.6	-5	-1	2	4	-1	3	6	7	8	13	15	16	1	6	8	9	1	5	9	11	4	4	3	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
ATHENS TO LONDON																									1304 N.MI.
55,000	-56.5	-57	-0	3	5	-55	1	4	5	-55	2	4	5	-59	-3	-0	1	-56	0	3	4	5	4	3	4
40,000	-56.5	-58	-1	2	4	-57	-1	3	5	-51	6	9	10	-56	0	3	4	-55	1	5	7	5	6	4	4
30,000	-44.5	-50	-6	-3	-2	-47	-2	0	2	-38	6	9	10	-43	2	4	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-4	-1	1	-21	0	3	5	-12	9	11	12	-17	5	7	9	-19	2	6	8	5	4	3	4
10,000	-4.6	-9	-5	-1	0	-5	-0	3	4	4	8	11	12	-1	4	6	8	-3	2	5	7	5	4	3	4
ATHENS TO MADRID																									1274 N.MI.
55,000	-56.5	-58	-2	2	3	-57	-1	2	3	-61	-4	-2	-1	-61	-5	-2	-1	-59	-3	0	2	5	4	3	3
40,000	-56.5	-57	-1	3	5	-58	-1	2	4	-51	6	8	10	-56	0	2	4	-55	1	4	6	5	5	4	4
30,000	-44.5	-48	-4	-1	-0	-46	-1	1	3	-36	8	10	12	-41	3	6	7	-43	2	5	7	3	4	3	4
20,000	-21.2	-23	-2	1	3	-19	2	5	6	-10	11	13	14	-15	6	8	10	-17	5	8	9	4	4	3	3
10,000	-4.6	-6	-1	2	3	-2	3	6	7	8	12	14	15	1	6	8	9	0	5	8	10	4	4	3	3
ATHENS TO MILAN																									815 N.MI.
55,000	-56.5	-57	-0	3	5	-55	1	3	4	-58	-1	1	2	-60	-4	-1	-0	-58	-1	2	3	5	4	3	3
40,000	-56.5	-57	-1	3	5	-58	-1	2	4	-50	6	9	10	-56	0	2	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-50	-5	-3	-2	-46	-2	1	2	-37	7	10	11	-42	3	5	6	-44	1	4	6	4	4	3	4
20,000	-21.2	-25	-4	-1	1	-20	1	4	5	-11	10	12	13	-16	6	8	9	-18	3	7	9	5	4	3	3
10,000	-4.6	-8	-4	-1	1	-4	1	4	5	5	10	12	13	0	5	7	8	-2	3	6	8	4	4	3	4
ATHENS TO MUNICH																									808 N.MI.
55,000	-56.5	-56	0	3	5	-56	1	3	5	-56	0	2	3	-60	-3	-1	0	-57	-1	2	4	5	4	3	4
40,000	-56.5	-57	-1	3	4	-57	-1	3	4	-50	7	9	10	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-47	-2	0	2	-37	7	9	11	-42	2	5	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-25	-4	-1	1	-21	1	3	5	-11	10	12	13	-16	5	7	9	-18	3	6	8	5	4	3	3
10,000	-4.6	-10	-5	-2	-0	-4	0	3	5	5	9	11	12	-0	4	7	8	-2	2	6	8	5	4	3	4
ATHENS TO NAIROBI																									2464 N.MI.
55,000	-56.5	-72	-16	-14	-13	-71	-15	-13	-12	-74	-17	-15	-14	-73	-17	-15	-14	-73	-16	-14	-13	3	3	3	3
40,000	-56.5	-54	3	4	5	-53	3	5	7	-50	6	8	8	-53	3	5	5	-53	4	6	7	3	4	2	2
30,000	-44.5	-38	6	8	9	-35	10	11	12	-30	15	16	17	-34	11	12	13	-34	11	13	14	2	2	2	2
20,000	-21.2	-11	10	12	13	-9	12	14	14	-5	16	18	18	-8	13	14	15	-8	13	15	16	2	2	2	2
10,000	-4.6	5	10	11	12	7	11	13	14	11	16	17	18	8	13	14	15	8	12	14	15	3	2	2	2
ATHENS TO NEW DELHI																									2700 N.MI.
55,000	-56.5	-62	-5	-2	-1	-60	-4	-1	-0	-67	-11	-8	-7	-63	-7	-4	-3	-63	-7	-4	-2	4	4	4	4
40,000	-56.5	-55	1	4	6	-55	2	5	7	-47	10	12	14	-55	1	4	5	-53	3	7	9	5	5	4	4
30,000	-44.5	-46	-2	1	2	-42	2	5	6	-29	16	18	20	-39	5	8	9	-39	5	10	12	4	4	4	4
20,000	-21.2	-21	-0	3	4	-16	6	8	10	-4	17	19	20	-13	8	10	12	-14	8	12	14	4	4	3	3
10,000	-4.6	-5	-1	2	4	2	6	9	10	12	17	19	20	4	9	11	12	3	8	12	13	4	4	3	3
ATHENS TO NICOSIA																									488 N.MI.
55,000	-56.5	-59	-3	-0	1	-58	-2	1	2	-66	-9	-7	-6	-62	-6	-3	-2	-61	-5	-2	-1	4	3	3	3
40,000	-56.5	-56	1	4	5	-57	-0	3	5	-47	9	11	12	-56	0	2	3	-54	2	6	8	4	5	3	3
30,000	-44.5	-48	-4	-2	-0	-45	-0	2	3	-31	13	15	16	-41	4	6	7	-41	3	7	9	3	3	3	3
20,000	-21.2	-22	-1	1	3	-19	3	5	7	-7	14	16	17	-14	7	9	10	-16	6	9	11	4	4	3	3
10,000	-4.6	-7	-2	0	2	-1	3	6	7	8	13	14	15	3	8	10	11	1	5	9	10	4	4	3	3
ATHENS TO PARIS																									1134 N.MI.
55,000	-56.5	-56	0	3	5	-56	1	4	5	-56	0	3	4	-60	-3	-1	1	-57	-0	2	4	5	4	3	4
40,000	-56.5	-58	-1	2	4	-57	-1	3	5	-51	6	8	10	-56	0	3	4	-56	1	5	7	5	5	4	4
30,000	-44.5	-50	-5	-3	-2	-47	-2	0	2	-38	7	9	10	-42	2	5	6	-44	0	4	6	4	4	3	4
20,000	-21.2	-25	-4	-1	1	-21	1	3	5	-11	10	12	13	-16	5	7	9	-18	3	6	8	5	4	3	4
10,000	-4.6	-9	-4	-1	1	-4	0	3	5	4	9	11	12	-0	4	7	8	-2	2	6	8	5	4	3	4
ATHENS TO PRAGUE																									836 N.MI.
55,000	-56.5	-56	0	3	5	-55	1	4	5	-55	1	3	4	-59	-3	-0	1	-57	-0	3	4	5	4	3	4
40,000	-56.5	-57	-1	2	4	-57	-0	3	5	-50	7	9	11	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-47	-2	0	1	-38	7	9	10	-42	2	4	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-1	0	-21	0	3	5	-12	10	12	13	-16	5	7	9	-19	2	6	8	5	4	3	4
10,000	-4.6	-11	-6	-3	-1	-5	-0	3	4	4	9	11	12	-1	4	6	8	-3	2	5	7	5	4	3	4
ATHENS TO ROME																									563 N.MI.
55,000	-56.5	-57	-1	2	4	-57	-0	2	4	-60	-4	-2	-0	-61	-4	-2	-1	-59	-2	1	2	4	4	3	3
40,000	-56.5	-57	-0	3	5	-58	-1	2	4	-49	7	10	11	-56	0	2	4	-55	1	5	7	5	5	3	3
30,000	-44.5	-49	-5	-3	-1	-46	-1	1	2	-36	8	11	12	-41	3	5	7	-43	1	5	7	3	3	3	4
20,000	-21.2	-24	-3	0	2	-19	2	4	6	-10	11	13	14	-13	6	8	9	-17	4	7	9	4	4	3	3
10,000	-4.6	-8	-3	-0	1	-3	2	5	6	6	11	13	14	1	5	8	9	-1	4	7	9	4	4	3	3
ATHENS TO TEHRAN																									1327 N.MI.
55,000	-56.5	-59	-3	0	2	-58	-2	1	2	-65	-9	-7	-6	-62	-5	-3	-1	-61	-5	-2	-0	4	3	3	4
40,000	-56.5	-56	1	4	5	-56	1	4	6	-47	10	12	13	-56	0	3	4	-54	3	6	8	4	5	3	3
30,000	-44.5	-48	-4	-2	-0	-44	0	2	4	-30	14	17	18	-41	4	6	7	-41	4	8	10	3	3	3	3
20,000	-21.2	-23	-2	1	2	-18	3	6	7	-6	15	17	18	-14	7	9	10	-15	6	10	12	4	4	3	3
10,000	-4.6	-7	-3	0	2	-1	4	7	8	10	14	16	17	3	8	10	11	1	6	9	11	4	4	3	3
ATHENS TO TEL AVIV-JAFFA																									655 N.MI.
55,000	-56.5	-61	-4	-2	-1	-59	-3	-1	0	-67	-11	-9	-8	-63	-7	-5	-3	-63	-6	-3	-2	4	3	3	3
40,000	-56.5	-55	1	4	6	-56	0	3	5	-47	9	11	12	-56	0	2	4	-54	3	6	8	4	5	3	3
30,000	-44.5	-47	-3	-1	0	-44	1	3	4	-30	15	17	18	-40	4	6	7	-40	4	8	10	3	3	3	3
20,000	-21.2	-21	-0	2	4	-18	4	6	7	-6	15	17	18	-14	8	9	10	-15	6	10	12	4	4	3	3
10,000	-4.6	-6	-1	1	3	-1	4	7	8	9	14	16	16	4	9	10	11	2	6	10	11	4	4	2	3
ATHENS TO TRIPOLI																									605 N.MI.
55,000	-56.5	-60	-4	-1	-0	-59	-2	-0	1	-65	-9	-7	-6	-63	-6	-4	-3	-62	-5	-3	-1	4	3	3	3
40,000	-56.5	-56	1	4	6	-57	-1	3	5	-48	8	10	11	-56	0	2	4	-54	2	5	7	5	5	3	3
30,000	-44.5	-47	-3	-1	0	-44	0	3	4	-33	11	13	14	-40	4	6	7	-41	3	7	9	3	3	3	3
20,000	-21.2	-21	-0	2	4	-17	4	6	8	-8	13	15	16	-14	8	9	10	-15	6	9	11	4	3	2	2
10,000	-4.6	-5	-1	2	3	-0	4	7	8	9	13	15	16	3	8	10	11	2	6	9	11	4	4	3	3
ATHENS TO TUNIS																									646 N.MI.
55,000	-56.5	-59	-2	1	2	-58	-1	1	2	-63	-6	-4	-3	-62	-5	-3	-2	-60	-4	-1	1	4	3	3	3
40,000	-56.5	-56	0	3	5	-57	-1	3	4	-49	8	10	11	-56	0	2	4	-55	2	5	7	5	5	3	3
30,000	-44.5	-48	-4	-1	-0	-45	-1	2	3	-35	10	12	13	-41	4	6	7	-42	2	6	8	3	3	3	3
20,000	-21.2	-23	-1	1	3	-18	3	5	7	-9	12	14	15	-14	7	9	10	-16	5	8	10	4	4	3	3
10,000	-4.6	-6	-2	1	2	-1	3	6	7	8	12	14	15	2	7	8	10	1	5	9	10	4	4	3	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	D*50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
ATHENS TO VIENNA																									688 N.MI.
55,000	-56.5	-56	0	3	5	-55	1	3	5	-56	0	2	3	-60	-3	-1	0	-57	-0	2	4	5	4	3	3
40,000	-56.5	-57	-1	3	4	-57	-1	3	5	-49	7	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-47	-2	0	2	-37	7	10	11	-42	2	5	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-4	-1	0	-21	0	3	5	-11	10	12	13	-16	5	7	9	-18	3	6	8	5	4	3	3
10,000	- 4.6	-10	-6	-3	-1	-4	0	3	5	4	9	11	12	-1	4	7	8	-3	2	5	7	5	4	3	4
ATHENS TO ZURICH																									879 N.MI.
55,000	-56.5	-56	0	3	5	-56	1	3	5	-57	-0	2	3	-60	-3	-1	0	-57	-1	2	4	5	4	3	4
40,000	-56.5	-57	-1	3	4	-58	-1	2	4	-50	6	9	10	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-47	-2	0	2	-37	7	9	11	-42	2	5	6	-44	0	4	6	4	4	3	4
20,000	-21.2	-25	-4	-1	1	-20	1	3	5	-11	10	12	13	-16	5	8	9	-18	3	6	8	5	4	3	3
10,000	- 4.6	-9	-4	-1	0	-4	0	3	5	5	9	12	13	-0	4	7	8	-2	2	6	8	5	4	3	4
ATLANTA TO MEXICO CITY																									1157 N.MI.
55,000	-56.5	-72	-16	-14	-13	-70	-14	-11	-10	-71	-15	-13	-13	-75	-18	-16	-15	-72	-16	-13	-12	3	3	2	3
40,000	-56.5	-57	-0	2	3	-53	0	2	3	-56	1	2	2	-55	2	3	4	-56	1	2	3	3	3	2	2
30,000	-44.5	-39	6	7	8	-38	7	8	9	-33	12	13	13	-35	10	12	12	-36	8	10	11	2	2	2	2
20,000	-21.2	-12	10	12	13	-10	11	13	14	-6	15	16	16	-8	14	15	16	-9	12	14	15	3	3	1	2
10,000	- 4.6	4	9	11	12	7	11	13	14	9	14	15	15	9	13	15	15	7	12	13	14	3	3	1	2
ATLANTA TO MONTREAL																									863 N.MI.
55,000	-56.5	-62	-5	-3	-1	-60	-3	-0	1	-63	-6	-4	-3	-64	-8	-5	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-54	2	4	5	-55	1	4	6	-56	1	3	4	5	5	3	4
30,000	-44.5	-46	-2	1	2	-45	-0	2	3	-36	9	11	12	-40	4	7	8	-42	3	6	8	3	3	3	4
20,000	-21.2	-21	-0	3	5	-19	3	5	7	-9	12	14	15	-13	8	10	12	-16	6	9	10	5	4	3	4
10,000	- 4.6	-8	-3	0	2	-4	1	4	6	6	11	12	13	2	7	10	11	-1	4	7	9	6	5	2	4
ATLANTA TO SAN JUAN																									1345 N.MI.
55,000	-56.5	-73	-16	-14	-13	-71	-14	-12	-11	-70	-13	-12	-11	-74	-18	-15	-14	-72	-15	-14	-13	3	3	2	3
40,000	-56.5	-56	1	3	4	-56	0	2	1	-56	0	1	2	-55	2	3	4	-56	1	2	3	3	3	2	2
30,000	-44.5	-38	6	8	9	-37	7	9	10	-34	11	12	12	-34	10	12	13	-36	9	10	11	2	2	2	2
20,000	-21.2	-11	10	12	13	-10	11	13	14	-7	14	15	16	-7	14	15	16	-9	12	14	15	2	2	1	2
10,000	- 4.6	4	9	11	12	5	10	12	12	8	13	14	14	8	12	14	14	6	11	12	13	3	3	1	2
AUCKLAND TO BANGKOK																									5159 N.MI.
55,000	-56.5	-77	-21	-19	-17	-75	-17	-17	-15	-73	-16	-14	-13	-74	-17	-15	-14	-75	-18	-16	-14	3	3	3	3
40,000	-56.5	-54	2	4	5	-53	4	5	6	-54	2	4	5	-54	2	4	6	-54	4	5	6	3	3	3	3
30,000	-44.5	-33	11	13	14	-34	10	12	13	-36	9	11	12	-35	9	11	12	-35	10	12	13	2	2	3	2
20,000	-21.2	-7	14	15	16	-8	13	14	15	-10	11	12	13	-10	11	13	14	-9	12	14	15	2	2	2	2
10,000	- 4.6	8	13	14	15	7	12	13	14	5	10	11	12	6	11	12	13	7	11	13	14	2	2	2	2
AUCKLAND TO CHRISTCHURCH																									413 N.MI.
55,000	-56.5	-61	-4	-1	0	-59	-3	-0	1	-56	0	3	4	-55	2	4	5	-58	-1	2	3	4	4	4	3
40,000	-56.5	-56	1	4	6	-55	1	4	6	-55	2	5	7	-53	4	7	9	-55	2	6	8	5	5	5	5
30,000	-44.5	-42	3	5	6	-45	-1	2	4	-51	-6	-3	-2	-47	-2	0	1	-46	-2	2	3	3	4	4	4
20,000	-21.2	-15	6	8	10	-19	2	5	6	-24	-3	-1	1	-21	0	3	4	-20	1	4	6	3	4	4	4
10,000	- 4.6	1	6	8	9	-2	3	5	6	-7	-3	-0	1	-4	0	3	4	-3	2	5	6	3	3	3	4
AUCKLAND TO CHUNG KING																									5519 N.MI.
55,000	-56.5	-76	-20	-18	-17	-75	-19	-17	-15	-73	-17	-15	-13	-73	-17	-15	-14	-75	-18	-16	-14	3	3	3	3
40,000	-56.5	-55	3	5	6	-55	4	6	7	-54	3	5	6	-54	3	5	6	-53	3	5	6	2	3	3	3
30,000	-44.5	-33	12	13	14	-34	11	13	14	-34	11	12	13	-34	11	12	13	-34	11	13	14	2	3	2	2
20,000	-21.2	-7	14	16	16	-8	13	15	16	-8	13	14	15	-9	13	14	15	-8	13	15	16	2	2	2	2
10,000	- 4.6	8	12	14	14	8	12	14	14	7	12	13	13	7	12	13	14	7	12	13	14	2	2	2	2
AUCKLAND TO DARWIN																									2765 N.MI.
55,000	-56.5	-73	-16	-14	-13	-71	-15	-12	-11	-68	-11	-9	-8	-68	-11	-9	-8	-70	-13	-11	-9	4	4	3	3
40,000	-56.5	-54	3	5	6	-54	3	5	6	-54	2	5	6	-54	3	5	7	-54	3	5	6	3	3	3	4
30,000	-44.5	-33	10	12	13	-37	7	9	10	-40	5	7	8	-39	6	8	9	-38	7	9	11	3	3	3	3
20,000	-21.2	-9	12	14	15	-11	10	12	13	-15	6	8	9	-13	8	10	11	-12	9	11	13	2	3	3	3
10,000	- 4.6	7	12	13	14	4	9	10	11	1	6	8	9	3	8	10	11	4	8	11	12	2	2	3	3
AUCKLAND TO DJAKARTA																									4115 N.MI.
55,000	-56.5	-74	-17	-15	-14	-71	-15	-13	-11	-69	-12	-10	-9	-69	-12	-10	-9	-71	-14	-12	-10	4	3	3	3
40,000	-56.5	-54	3	5	6	-54	3	5	6	-54	3	5	6	-54	3	5	7	-54	3	5	7	3	3	3	4
30,000	-44.5	-35	10	12	13	-37	7	9	10	-39	5	8	9	-38	6	8	9	-37	7	10	11	3	3	3	3
20,000	-21.2	-9	13	14	15	-11	10	12	13	-14	7	9	10	-13	9	10	11	-12	10	12	13	2	3	3	3
10,000	- 4.6	8	12	14	15	5	9	11	12	2	6	8	9	4	8	10	11	4	9	11	12	2	2	3	3
AUCKLAND TO GUAM																									3456 N.MI.
55,000	-56.5	-77	-20	-18	-17	-76	-19	-17	-16	-73	-17	-15	-14	-74	-17	-15	-14	-75	-18	-16	-15	3	3	3	3
40,000	-56.5	-53	3	5	6	-53	4	6	7	-54	2	4	5	-54	2	4	5	-54	3	5	6	2	3	3	3
30,000	-44.5	-33	12	13	14	-34	10	12	13	-35	9	11	12	-35	10	11	12	-34	10	12	13	2	3	3	3
20,000	-21.2	-6	15	17	17	-8	13	15	15	-10	12	13	14	-9	12	13	14	-8	13	15	16	2	2	2	2
10,000	- 4.6	9	13	15	16	8	12	14	15	6	10	12	12	7	11	13	13	7	12	14	14	2	2	2	2
AUCKLAND TO HONG KONG																									4924 N.MI.
55,000	-56.5	-77	-21	-19	-18	-76	-20	-17	-16	-74	-17	-15	-14	-74	-17	-15	-14	-75	-19	-16	-15	3	3	3	3
40,000	-56.5	-54	3	4	5	-53	4	6	7	-54	2	4	5	-54	2	4	5	-54	3	5	6	2	3	3	3
30,000	-44.5	-33	12	14	14	-33	11	13	14	-35	10	12	12	-34	10	12	13	-34	11	13	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-8	13	15	16	-9	12	13	14	-9	12	14	15	-8	13	15	16	2	2	2	2
10,000	- 4.6	9	13	14	15	8	12	14	14	6	11	12	13	7	12	13	14	7	12	14	14	2	2	2	2
AUCKLAND TO HONOLULU																									3817 N.MI.
55,000	-56.5	-76	-20	-18	-17	-75	-19	-17	-15	-73	-16	-14	-13	-73	-16	-14	-13	-74	-18	-15	-14	3	3	3	3
40,000	-56.5	-54	3	5	6	-54	3	4	5	-54	2	4	5	-54	2	4	5	-54	2	4	5	3	3	2	3
30,000	-44.5	-34	11	12	13	-34	10	12	13	-35	9	11	12	-35	9	11	12	-35	10	12	13	3	3	3	3
20,000	-21.2	-7	14	15	16	-9	13	14	15	-9	12	13	14	-9	12	14	15	-8	13	14	15	2	2	2	2
10,000	- 4.6	9	13	14	15	8	13	14	15	6	11	12	13	7	12	13	14	8	12	14	14	2	2	2	2
AUCKLAND TO MANILA																									4317 N.MI.
55,000	-56.5	-77	-21	-19	-18	-76	-19	-17	-16	-73	-17	-15	-14	-74	-17	-15	-14	-75	-19	-16	-15	3	3	3	3
40,000	-56.5	-54	3	4	5	-53	4	6	7	-54	2	4	5	-54	2	4	5	-54	3	5	6	2	3	3	3
30,000	-44.5	-33	12	13	14	-34	11	12	13	-35	9	11	12	-35	10	11	12	-34	10	12	13	2	2	3	2
20,000	-21.2	-6	15	16	17	-8	13	15	15	-10	11	13	13	-9	12	13	14	-8	13	14	15	2	2	2	2
10,000	- 4.6	9	13	15	15	7	12	13	14	6	10	12	12	7	11	13	13	7	12	13	14	2	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
AUCKLAND TO MELBOURNE																								1415 N.MI.	
55,000	-56.5	-62	-6	-3	-2	-61	-4	-2	-0	-57	-0	2	3	-56	0	2	3	-59	-3	0	1	4	4	4	3
40,000	-56.5	-56	0	3	5	-56	1	4	5	-54	2	6	7	-53	4	7	9	-55	2	6	8	4	4	5	5
30,000	-44.5	-40	4	6	8	-45	-0	2	3	-49	-5	-2	-1	-46	-1	1	2	-45	-1	3	4	3	4	4	4
20,000	-21.2	-14	8	10	11	-18	3	5	7	-24	-3	-0	1	-20	1	4	5	-19	2	5	7	3	4	4	4
10,000	- 4.6	3	8	10	11	-2	3	5	6	-6	-2	1	2	-3	2	4	5	-2	3	6	8	3	3	3	4
AUCKLAND TO MUKDEN																								5682 N.MI.	
55,000	-56.5	-73	-17	-14	-13	-73	-16	-13	-12	-71	-15	-12	-11	-71	-15	-12	-11	-72	-16	-13	-12	3	4	4	4
40,000	-56.5	-52	4	6	7	-53	3	6	7	-53	4	6	7	-53	3	5	6	-53	4	6	7	3	3	3	3
30,000	-44.5	-34	10	12	13	-35	10	12	13	-33	12	14	15	-34	10	12	13	-34	11	13	14	3	3	3	3
20,000	-21.2	-9	12	13	14	-9	12	14	15	-8	13	15	16	-9	12	14	15	-9	12	14	15	3	3	2	2
10,000	- 4.6	5	10	11	12	6	11	12	13	8	12	14	14	6	11	13	14	6	11	13	13	2	3	2	2
AUCKLAND TO NANDI																								1152 N.MI.	
55,000	-56.5	-70	-14	-12	-10	-70	-13	-11	-9	-65	-9	-7	-5	-65	-8	-6	-5	-68	-11	-8	-7	3	4	3	3
40,000	-56.5	-54	2	5	6	-54	2	5	6	-54	3	5	6	-54	2	5	6	-54	2	5	6	3	3	4	4
30,000	-44.5	-36	8	10	11	-37	7	10	11	-41	4	7	8	-40	4	6	8	-39	6	8	10	3	4	4	3
20,000	-21.2	-10	12	13	14	-12	9	11	12	-16	6	8	9	-14	7	9	10	-13	8	11	12	3	3	3	3
10,000	- 4.6	7	11	13	14	5	10	11	12	0	5	7	8	2	7	9	10	4	8	10	12	2	3	3	3
AUCKLAND TO NANKING																								5185 N.MI.	
55,000	-56.5	-76	-19	-17	-16	-75	-18	-16	-15	-73	-16	-14	-13	-73	-17	-14	-13	-74	-18	-15	-14	3	4	3	3
40,000	-56.5	-53	3	5	6	-53	4	6	7	-53	3	5	6	-54	3	5	6	-53	3	5	7	3	3	3	3
30,000	-44.5	-33	12	14	14	-34	11	12	13	-34	11	13	14	-34	11	12	13	-33	11	13	14	2	3	3	3
20,000	-21.2	-7	14	16	16	-8	13	15	16	-8	13	14	15	-9	13	14	15	-8	13	15	16	2	2	2	2
10,000	- 4.6	7	12	13	14	7	12	13	14	7	12	13	14	7	12	13	14	7	12	13	14	2	2	2	2
AUCKLAND TO NOUMEA																								969 N.MI.	
55,000	-56.5	-69	-12	-10	-8	-68	-12	-9	-7	-63	-7	-5	-4	-63	-6	-4	-3	-66	-9	-7	-5	4	4	3	3
40,000	-56.5	-54	2	5	6	-54	2	5	6	-54	3	5	6	-54	3	5	7	-54	2	5	6	4	3	4	4
30,000	-44.5	-37	7	9	10	-39	6	8	10	-42	2	5	6	-42	3	5	6	-40	4	7	9	3	4	4	3
20,000	-21.2	-11	11	12	13	-14	8	10	11	-18	4	6	7	-16	5	7	9	-14	7	9	11	3	3	3	3
10,000	- 4.6	6	10	12	13	5	8	10	11	-1	3	5	6	1	6	8	9	2	7	9	11	3	3	3	3
AUCKLAND TO PAPEETE																								2235 N.MI.	
55,000	-56.5	-69	-13	-10	-9	-69	-12	-10	-8	-66	-8	-5	-4	-62	-6	-4	-3	-66	-10	-7	-5	4	4	3	3
40,000	-56.5	-54	2	5	6	-55	2	4	6	-54	3	5	7	-54	2	5	6	-54	2	5	6	4	4	4	4
30,000	-44.5	-37	8	10	11	-38	7	9	11	-42	3	5	7	-41	3	6	7	-39	5	8	9	3	4	4	4
20,000	-21.2	-11	11	12	13	-12	9	11	12	-17	5	7	8	-15	7	9	10	-14	8	10	11	3	3	3	3
10,000	- 4.6	6	11	12	13	5	10	11	12	-0	4	6	7	2	7	9	10	3	8	10	11	2	2	3	3
AUCKLAND TO PEIPING																								5595 N.MI.	
55,000	-56.5	-76	-17	-15	-14	-73	-17	-14	-13	-72	-15	-13	-11	-72	-15	-13	-12	-73	-16	-14	-12	4	4	4	3
40,000	-56.5	-55	4	6	7	-53	4	5	7	-53	4	6	7	-55	3	5	6	-53	4	6	7	3	3	3	3
30,000	-44.5	-34	11	13	14	-35	10	12	13	-33	12	13	14	-34	11	12	13	-34	11	13	14	3	3	3	3
20,000	-21.2	-9	12	14	15	-9	12	14	15	-8	13	15	16	-9	12	14	15	-9	13	14	15	2	3	2	2
10,000	- 4.6	6	10	12	13	6	11	13	13	8	12	13	14	7	11	13	14	6	11	13	14	2	2	2	2
AUCKLAND TO OHAKEA																								204 N.MI.	
55,000	-56.5	-62	-5	-2	-1	-60	-4	-1	0	-57	-0	2	4	-56	1	3	4	-58	-2	1	2	4	4	4	3
40,000	-56.5	-56	1	4	6	-55	1	4	6	-54	2	6	8	-53	4	7	9	-54	2	6	8	5	5	5	5
30,000	-44.5	-41	3	6	7	-44	0	3	5	-50	-5	-3	-1	-46	-2	1	2	-45	-1	2	4	3	4	4	4
20,000	-21.2	-14	7	9	10	-18	3	6	7	-24	-3	-0	1	-20	1	3	5	-19	2	5	7	3	4	4	4
10,000	- 4.6	2	7	9	10	-1	5	6	7	-7	-2	0	1	-3	1	4	5	-2	2	5	7	3	3	3	4
AUCKLAND TO SEOUL																								5190 N.MI.	
55,000	-56.5	-76	-18	-16	-16	-76	-17	-15	-15	-72	-16	-15	-12	-72	-16	-13	-12	-73	-17	-14	-15	3	4	4	3
40,000	-56.5	-53	4	6	7	-55	5	6	7	-55	5	6	7	-54	3	5	6	-53	5	5	7	3	3	3	3
30,000	-44.5	-33	11	13	14	-34	10	12	13	-33	11	13	14	-34	11	13	14	-34	11	13	14	3	3	3	3
20,000	-21.2	-8	13	15	15	-9	13	14	15	-8	13	15	15	-9	13	14	15	-8	13	14	15	2	3	2	2
10,000	- 4.6	6	11	12	13	7	12	13	14	7	12	13	14	7	12	13	14	7	11	13	14	2	2	2	2
AUCKLAND TO SINGAPORE																								4528 N.MI.	
55,000	-56.5	-76	-19	-17	-16	-73	-17	-15	-15	-71	-14	-12	-11	-71	-14	-12	-11	-73	-16	-14	-12	3	3	3	3
40,000	-56.5	-54	3	5	6	-53	3	5	6	-54	2	4	5	-54	3	5	6	-54	3	5	6	3	3	3	3
30,000	-44.5	-34	11	12	13	-36	9	10	11	-38	7	9	10	-37	7	9	10	-36	8	11	12	2	3	3	3
20,000	-21.2	-8	13	15	15	-10	11	13	14	-12	9	10	11	-11	10	12	12	-10	11	13	14	2	2	2	2
10,000	- 4.6	8	13	14	15	6	10	12	13	5	8	9	10	5	9	11	12	5	10	12	13	2	2	2	2
AUCKLAND TO SYDNEY																								1157 N.MI.	
55,000	-56.5	-64	-7	-5	-3	-62	-6	-3	-2	-58	-2	1	2	-58	-1	1	2	-60	-4	-1	-0	4	4	4	3
40,000	-56.5	-56	1	3	5	-55	1	4	5	-54	3	6	7	-53	3	7	9	-55	2	6	7	4	4	4	5
30,000	-44.5	-40	5	7	8	-44	1	3	5	-48	-4	-1	0	-45	-1	2	3	-44	0	3	5	3	4	4	4
20,000	-21.2	-13	8	10	11	-17	4	6	8	-23	-2	1	2	-19	2	4	6	-18	3	6	8	3	4	4	4
10,000	- 4.6	4	8	10	12	-1	4	6	7	-5	-1	1	3	-2	2	5	6	-1	3	6	8	3	3	3	4
AUCKLAND TO TAIPEI																								4771 N.MI.	
55,000	-56.5	-77	-20	-18	-17	-76	-19	-17	-16	-74	-17	-15	-14	-74	-17	-15	-14	-75	-19	-16	-15	3	3	3	3
40,000	-56.5	-53	3	5	6	-55	4	6	7	-54	3	4	6	-54	3	5	6	-55	3	5	6	2	3	3	3
30,000	-44.5	-32	12	14	15	-34	11	13	14	-34	10	12	13	-34	10	12	13	-34	11	13	14	2	3	3	2
20,000	-21.2	-6	15	16	17	-8	13	15	16	-9	12	14	14	-9	13	14	15	-8	13	15	16	2	2	2	2
10,000	- 4.6	8	13	14	15	8	12	14	15	7	11	13	13	7	12	13	14	8	12	14	14	2	2	2	2
AUCKLAND TO TOKYO																								4755 N.MI.	
55,000	-56.5	-75	-18	-16	-15	-74	-17	-15	-13	-72	-16	-13	-12	-72	-16	-14	-13	-73	-17	-14	-13	3	4	3	3
40,000	-56.5	-52	4	6	7	-53	3	5	7	-53	3	5	6	-54	3	5	6	-53	3	5	7	3	3	3	3
30,000	-44.5	-33	12	14	15	-34	10	12	13	-34	11	13	14	-34	11	13	14	-34	11	13	14	3	3	3	3
20,000	-21.2	-8	14	15	16	-8	13	15	16	-8	13	14	15	-8	13	14	15	-8	13	15	16	2	3	2	2
10,000	- 4.6	7	12	13	14	8	12	14	14	7	12	13	14	7	12	13	14	7	12	13	14	2	2	2	2
AUCKLAND TO WELLINGTON																								273 N.MI.	
55,000	-56.5	-61	-5	-2	-1	-60	-3	-1	1	-56	0	3	4	-55	1	3	5	-58	-2	1	3	4	4	4	3
40,000	-56.5	-56	1	4	6	-55	1	4	6	-54	2	6	7	-53	4	7	9	-55	2	6	8	5	5	5	5
30,000	-44.5	-41	3	5	7	-45	-0	3	4	-50	-6	-3	-2	-47	-2	0	2	-46	-1	2	4	3	4	4	4
20,000	-21.2	-15	6	9	10	-19	3	5	7	-24	-3	-0	1	-21	1	3	5	-20	2	5	7	3	4	4	4
10,000	- 4.6	2	6	9	10	-1	3	5	6	-7	-2	-0	1	-4	1	3	5	-3	2	5	7	3	3	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																				STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
BAGHDAD TO BAHREIN																									554 N.MI.
55,000	-56.5	-66	-10	-8	-6	-65	-9	-7	-5	-72	-15	-13	-12	-69	-12	-10	-8	-68	-12	-9	-7	4	3	3	4
40,000	-56.5	-54	2	5	6	-54	3	6	8	-46	10	12	13	-54	2	4	5	-52	4	8	9	4	4	3	3
30,000	-44.5	-43	2	5	6	-39	5	8	9	-26	19	20	21	-36	8	10	11	-36	9	12	14	4	3	3	3
20,000	-21.2	-17	4	6	8	-13	8	10	11	-2	19	21	22	-10	11	13	14	-11	11	14	16	3	3	3	3
10,000	- 4.6	-1	4	6	7	5	9	11	12	16	20	22	23	7	12	14	14	7	11	15	16	4	3	2	3
BAGHDAD TO BANGKOK																									3261 N.MI.
55,000	-56.5	-71	-14	-12	-11	-69	-12	-10	-8	-74	-17	-15	-13	-72	-15	-13	-11	-71	-15	-12	-10	4	4	4	4
40,000	-56.5	-55	2	4	6	-53	3	6	8	-49	8	11	12	-54	2	5	6	-53	4	7	9	4	4	4	4
30,000	-44.5	-38	6	9	10	-36	8	11	13	-27	18	20	21	-34	11	13	14	-34	11	14	16	4	4	3	3
20,000	-21.2	-13	8	10	11	-10	12	14	15	-3	19	20	21	-8	13	15	16	-8	13	16	17	3	3	3	3
10,000	- 4.6	3	7	10	11	8	12	14	15	14	18	20	20	8	12	14	15	8	13	15	16	3	3	2	3
BAGHDAD TO BASRA																									240 N.MI.
55,000	-56.5	-64	-8	-5	-4	-63	-7	-4	-3	-71	-15	-12	-11	-66	-10	-7	-6	-66	-10	-7	-5	4	3	3	4
40,000	-56.5	-54	2	5	6	-54	2	5	7	-46	11	13	14	-55	2	4	5	-52	4	7	9	4	5	3	3
30,000	-44.5	-44	0	3	4	-41	4	6	7	-26	18	20	21	-38	7	9	10	-37	7	11	13	4	3	3	3
20,000	-21.2	-19	2	5	6	-15	6	8	9	-2	19	21	22	-11	10	12	13	-12	9	13	15	3	3	3	3
10,000	- 4.6	-3	2	4	6	3	8	10	11	15	20	21	22	6	11	13	15	5	10	14	15	4	3	2	3
BAGHDAD TO BEIRUT																									445 N.MI.
55,000	-56.5	-62	-6	-3	-2	-61	-4	-2	-1	-70	-14	-12	-11	-64	-8	-6	-4	-65	-8	-5	-4	4	3	3	4
40,000	-56.5	-55	2	4	6	-55	1	5	7	-46	11	12	13	-56	1	3	4	-53	4	7	9	4	5	3	3
30,000	-44.5	-46	-2	0	1	-43	2	4	5	-27	17	19	20	-39	5	7	8	-39	6	10	12	3	3	3	3
20,000	-21.2	-20	1	3	5	-17	5	7	8	-4	18	20	21	-13	9	10	11	-13	8	12	14	3	3	3	3
10,000	- 4.6	-4	0	3	4	1	6	8	10	13	17	19	20	5	10	12	13	4	8	12	14	4	4	2	3
BAGHDAD TO BOMBAY																									1747 N.MI.
55,000	-56.5	-70	-13	-11	-9	-69	-12	-10	-9	-73	-17	-14	-13	-72	-15	-13	-11	-71	-14	-12	-10	4	4	4	4
40,000	-56.5	-54	2	5	7	-53	4	7	8	-47	10	12	13	-54	2	5	6	-52	4	8	10	4	5	4	4
30,000	-44.5	-39	5	8	10	-37	8	10	12	-26	18	20	21	-34	10	12	13	-34	10	14	16	4	4	3	3
20,000	-21.2	-15	7	9	10	-10	11	13	14	-3	19	21	22	-8	13	15	15	-9	12	16	17	3	3	3	3
10,000	- 4.6	2	7	9	10	8	12	14	15	15	20	21	22	3	12	14	15	8	13	15	17	3	3	2	3
BAGHDAD TO CAIRO																									688 N.MI.
55,000	-56.5	-64	-8	-5	-4	-63	-6	-4	-3	-71	-15	-13	-11	-66	-10	-8	-6	-66	-10	-7	-5	3	3	3	3
40,000	-56.5	-54	2	5	6	-55	2	5	6	-46	10	12	13	-55	1	3	4	-53	4	7	9	4	5	3	3
30,000	-44.5	-45	-1	1	2	-41	3	5	6	-26	18	20	21	-38	6	8	9	-38	7	11	13	3	3	3	3
20,000	-21.2	-19	2	5	6	-15	6	8	9	-3	18	20	21	-12	9	11	12	-12	9	13	15	3	3	3	2
10,000	- 4.6	-3	2	4	5	2	6	9	10	14	18	20	20	6	11	13	14	5	9	13	14	3	4	2	3
BAGHDAD TO COLOMBO																									2533 N.MI.
55,000	-56.5	-74	-17	-15	-14	-73	-16	-14	-12	-75	-19	-16	-15	-75	-19	-17	-15	-74	-18	-15	-14	3	4	4	3
40,000	-56.5	-55	2	4	6	-52	4	7	8	-48	8	10	11	-54	3	5	6	-52	4	7	9	4	4	3	3
30,000	-44.5	-36	8	11	12	-34	10	13	14	-27	17	19	20	-33	11	13	14	-33	12	15	16	3	3	3	3
20,000	-21.2	-11	10	12	13	-6	13	15	16	-3	18	20	20	-7	14	16	16	-7	14	16	18	3	3	2	2
10,000	- 4.6	5	10	11	12	9	13	15	16	14	18	19	20	8	13	14	15	9	13	16	17	3	2	2	2
BAGHDAD TO DAMASCUS																									407 N.MI.
55,000	-56.5	-63	-6	-4	-2	-61	-5	-2	-1	-70	-14	-12	-11	-65	-8	-6	-4	-65	-8	-5	-4	4	3	3	4
40,000	-56.5	-55	2	4	6	-55	2	5	7	-46	11	12	14	-56	1	3	4	-53	4	7	9	4	5	3	3
30,000	-44.5	-46	-2	0	1	-43	2	4	5	-27	18	20	21	-39	5	7	8	-39	6	10	12	3	3	3	3
20,000	-21.2	-20	1	3	5	-16	5	7	8	-3	18	20	21	-13	9	10	11	-13	8	12	14	3	3	3	3
10,000	- 4.6	-4	0	3	4	1	6	8	10	13	18	19	20	6	10	12	13	4	9	12	14	4	4	2	3
BAGHDAD TO DHAHRAN																									519 N.MI.
55,000	-56.5	-66	-10	-8	-6	-65	-9	-7	-5	-72	-15	-13	-12	-69	-12	-10	-8	-68	-12	-9	-7	4	3	3	4
40,000	-56.5	-54	2	5	6	-54	3	6	8	-46	10	12	13	-54	2	4	5	-52	4	8	9	4	4	3	3
30,000	-44.5	-43	2	4	6	-39	5	8	9	-26	19	20	21	-36	8	10	11	-36	9	12	14	4	4	3	3
20,000	-21.2	-17	4	6	8	-13	8	10	11	-2	19	21	22	-10	11	13	14	-11	11	14	16	3	3	3	3
10,000	- 4.6	-1	4	5	7	5	9	11	12	16	20	22	23	7	12	14	14	7	11	15	16	4	3	2	3
BAGHDAD TO ISTANBUL																									872 N.MI.
55,000	-56.5	-59	-3	0	2	-58	-2	1	2	-65	-9	-7	-6	-62	-5	-3	-2	-61	-5	-2	-0	4	3	3	4
40,000	-56.5	-56	1	4	5	-56	1	4	6	-47	10	12	13	-56	0	3	4	-54	3	6	8	4	5	3	3
30,000	-44.5	-49	-4	-2	-1	-45	-0	2	3	-30	14	16	18	-41	4	6	7	-41	3	8	10	3	3	3	3
20,000	-21.2	-23	-2	1	2	-18	3	6	7	-6	15	17	18	-14	7	9	10	-15	6	10	12	4	4	3	3
10,000	- 4.6	-7	-3	0	2	-1	4	7	8	10	14	16	17	3	8	10	11	1	6	9	11	4	4	3	3
BAGHDAD TO JIDDA																									760 N.MI.
55,000	-56.5	-68	-12	-10	-8	-67	-11	-9	-7	-73	-16	-14	-13	-71	-14	-12	-11	-70	-13	-11	-9	3	3	3	3
40,000	-56.5	-54	3	5	6	-54	3	5	7	-47	9	11	12	-54	2	4	5	-52	4	7	9	3	4	3	3
30,000	-44.5	-42	3	5	6	-38	7	9	10	-26	18	20	21	-36	9	11	12	-35	9	13	14	3	3	2	3
20,000	-21.2	-15	6	8	9	-12	9	11	12	-3	18	20	21	-9	12	13	14	-10	11	14	16	3	3	3	2
10,000	- 4.6	1	6	8	9	5	10	12	13	16	20	22	22	8	12	14	15	7	12	15	16	3	3	2	2
BAGHDAD TO KARACHI																									1293 N.MI.
55,000	-56.5	-67	-11	-8	-7	-66	-10	-7	-6	-72	-16	-13	-12	-69	-13	-10	-9	-69	-12	-9	-8	4	4	4	4
40,000	-56.5	-54	2	5	7	-53	3	6	8	-47	10	12	14	-54	2	5	6	-52	4	8	10	4	5	4	4
30,000	-44.5	-41	3	6	8	-39	6	9	10	-26	19	21	22	-36	9	11	12	-35	9	13	15	4	4	3	3
20,000	-21.2	-16	5	7	8	-12	9	12	13	-2	19	21	22	-10	12	13	14	-10	11	15	17	3	3	3	3
10,000	- 4.6	-0	4	7	8	6	11	13	14	16	21	22	23	7	12	14	15	7	12	15	17	4	3	2	3
BAGHDAD TO LONDON																									2218 N.MI.
55,000	-56.5	-57	-1	2	4	-56	1	3	4	-57	-0	2	3	-60	-3	-1	1	-57	-1	2	3	4	4	3	4
40,000	-56.5	-57	-1	3	4	-56	1	4	6	-49	8	10	12	-56	0	3	4	-55	2	6	8	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-46	-2	1	2	-36	9	11	12	-42	2	5	6	-44	1	5	7	4	4	4	4
20,000	-21.2	-25	-4	-1	1	-21	1	4	5	-10	11	13	14	-16	5	7	9	-18	3	7	9	5	4	3	4
10,000	- 4.6	-10	-5	-2	-0	-4	1	4	5	5	10	12	13	-0	4	7	9	-2	2	6	8	5	4	3	4
BAGHDAD TO NEW DELHI																									1702 N.MI.
55,000	-56.5	-65	-9	-6	-5	-64	-7	-5	-3	-71	-14	-11	-10	-67	-10	-7	-6	-67	-10	-7	-5	4	4	4	4
40,000	-56.5	-54	2	5	7	-54	2	6	8	-47	10	13	14	-54	2	5	6	-52	4	8	10	5	5	4	4
30,000	-44.5	-43	2	5	6	-40	5	7	9	-26	18	20	22	-37	8	10	12	-36	8	12	15	4	4	4	4
20,000	-21.2	-18	3	5	7	-13	8	11	12	-2	19	21	22	-11	10	12	14	-11	10	14	16	4	4	3	3
10,000	- 4.6	-2	3	5	7	5	10	12	13	15	20	22	23	6	11	13	14	6	11	14	16	4	3	3	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BAGHDAD TO TEHERAN																						372 N.MI.			
55,000	-56.5	-62	-5	-5	-1	-61	-4	-2	-1	-69	-15	-11	-9	-64	-7	-4	-5	-64	-7	-4	-5	4	5	3	4
40,000	-56.5	-55	2	4	6	-55	2	5	7	-46	11	15	14	-55	1	5	4	-53	4	7	9	4	5	3	5
30,000	-44.5	-46	-2	1	2	-42	2	5	6	-27	18	20	21	-40	5	7	8	-39	6	10	15	4	4	3	3
20,000	-21.2	-21	0	5	4	-16	5	7	8	-2	19	21	22	-15	8	10	11	-15	8	12	15	4	3	5	5
10,000	-4.6	-5	-0	5	4	1	6	9	10	14	19	20	21	5	10	12	15	4	9	12	14	4	4	3	5
BAGHDAD TO VIENNA																						1551 N.MI.			
55,000	-56.5	-57	-1	2	4	-56	0	2	4	-60	-5	-1	0	-60	-4	-1	0	-58	-2	1	2	4	5	5	4
40,000	-56.5	-57	-0	5	5	-56	1	4	6	-48	9	11	12	-56	0	5	4	-54	2	6	8	5	5	5	4
30,000	-44.5	-50	-6	-5	-2	-46	-1	1	2	-34	11	15	14	-42	5	5	6	-43	2	6	8	5	4	5	5
20,000	-21.2	-25	-4	-1	1	-20	1	4	6	-9	12	14	15	-16	6	8	9	-17	4	8	10	4	4	3	5
10,000	-4.6	-10	-5	-2	-0	-5	2	5	6	7	11	15	14	1	5	8	9	-1	5	7	9	5	4	5	4
BAHREIN TO BEIRUT																						907 N.MI.			
55,000	-56.5	-66	-9	-7	-6	-65	-8	-6	-5	-72	-15	-15	-12	-68	-12	-9	-8	-68	-11	-8	-7	5	5	3	4
40,000	-56.5	-54	2	5	6	-54	2	5	7	-46	10	12	15	-55	2	4	5	-52	4	7	9	4	4	3	5
30,000	-44.5	-45	1	5	5	-40	5	7	8	-26	18	20	21	-37	8	10	11	-37	8	12	14	5	5	5	5
20,000	-21.2	-17	4	6	7	-14	7	9	10	-5	19	20	22	-11	11	12	15	-11	10	14	16	5	5	5	2
10,000	-4.6	-1	5	6	7	4	8	11	12	15	20	21	22	7	11	15	14	6	11	14	16	5	5	2	5
BAHREIN TO CALCUTTA																						2069 N.MI.			
55,000	-56.5	-71	-15	-12	-11	-70	-13	-10	-9	-74	-18	-15	-15	-75	-17	-14	-13	-72	-16	-12	-11	4	4	4	4
40,000	-56.5	-54	2	5	7	-55	4	7	9	-48	9	12	15	-54	5	6	7	-52	4	8	10	5	5	4	4
30,000	-44.5	-38	7	10	11	-35	9	12	15	-26	18	20	22	-35	12	14	15	-35	11	15	17	5	4	5	4
20,000	-21.2	-15	9	11	12	-9	12	15	16	-2	19	21	22	-7	14	16	17	-8	15	16	18	5	5	5	5
10,000	-4.6	4	8	10	11	9	14	16	17	15	19	21	22	8	15	14	15	9	15	16	18	5	5	2	5
BAHREIN TO COLOMBO																						2038 N.MI.			
55,000	-56.5	-77	-20	-18	-17	-76	-19	-17	-16	-76	-20	-17	-16	-78	-22	-19	-18	-77	-20	-18	-16	5	4	3	5
40,000	-56.5	-55	2	4	5	-52	5	7	8	-49	7	9	10	-54	5	5	6	-52	4	7	8	4	4	3	5
30,000	-44.5	-34	11	15	14	-32	12	14	16	-28	17	18	19	-32	12	14	15	-31	15	15	17	5	5	2	5
20,000	-21.2	-8	15	14	15	-7	15	16	17	-4	17	19	20	-4	15	16	17	-6	15	17	18	2	2	2	2
10,000	-4.6	7	12	15	14	10	15	16	17	15	17	19	19	9	15	15	15	10	14	16	17	2	2	2	2
BAHREIN TO JIDDA																						689 N.MI.			
55,000	-56.5	-71	-15	-15	-12	-71	-14	-12	-11	-74	-18	-16	-15	-74	-18	-15	-14	-75	-16	-14	-12	5	5	3	5
40,000	-56.5	-54	5	5	6	-55	4	6	7	-48	8	10	11	-55	5	5	6	-52	4	7	8	5	4	5	5
30,000	-44.5	-39	5	8	9	-45	9	11	12	-26	18	20	20	-35	11	15	14	-35	11	14	15	5	5	2	5
20,000	-21.2	-12	9	10	11	-10	12	15	14	-5	18	19	20	-7	14	15	16	-8	15	16	17	2	2	2	2
10,000	-4.6	4	9	11	11	8	12	14	15	16	21	22	23	9	15	15	15	9	14	16	18	5	5	2	2
BAHREIN TO KARACHI																						897 N.MI.			
55,000	-56.5	-70	-14	-12	-10	-70	-14	-11	-10	-74	-17	-15	-15	-75	-17	-14	-13	-72	-15	-15	-11	4	4	4	4
40,000	-56.5	-54	5	5	7	-52	4	7	9	-47	9	12	15	-54	5	5	7	-52	5	8	10	4	4	4	4
30,000	-44.5	-38	6	9	11	-36	9	11	13	-26	19	21	22	-34	11	15	14	-35	11	15	16	4	4	5	5
20,000	-21.2	-15	8	10	11	-9	15	15	16	-5	19	20	21	-8	14	15	16	-8	15	16	18	5	5	5	5
10,000	-4.6	5	8	10	11	9	14	16	17	16	21	22	23	8	15	14	15	9	14	17	18	5	5	2	5
BAHREIN TO LONDON																						2748 N.MI.			
55,000	-56.5	-59	-5	0	2	-58	-1	1	2	-60	-4	-2	-0	-62	-5	-5	-1	-60	-5	-0	1	4	5	3	4
40,000	-56.5	-56	0	5	5	-55	1	5	6	-48	8	11	12	-56	1	5	4	-54	2	6	8	5	5	4	4
30,000	-44.5	-49	-4	-2	-0	-45	-0	2	5	-34	11	15	14	-41	[illegible]	4	7	-42	2	4	8	4	4	5	5
20,000	-21.2	-25	-2	1	2	-19	2	5	6	-9	12	15	16	-15	6	9	10	-17	5	8	10	4	4	5	5
10,000	-4.6	-8	-5	-0	1	-2	2	5	7	7	12	14	15	1	6	9	10	-0	4	8	10	5	4	5	4
BAHREIN TO NEW DELHI																						1414 N.MI.			
55,000	-56.5	-69	-12	-10	-8	-68	-11	-9	-7	-75	-16	-15	-12	-71	-14	-12	-10	-70	-14	-10	-9	4	4	4	4
40,000	-56.5	-54	5	6	7	-55	5	7	8	-47	9	12	14	-54	5	5	7	-52	4	8	10	5	5	4	4
30,000	-44.5	-40	5	8	10	-37	7	10	12	-26	18	21	22	-34	10	13	14	-34	10	14	16	5	4	5	4
20,000	-21.2	-15	6	8	10	-10	11	15	15	-2	19	21	22	-9	14	15	16	-9	12	16	17	5	5	5	5
10,000	-4.6	1	6	8	9	8	13	15	16	16	21	22	23	7	12	14	15	8	15	16	18	5	5	2	5
BAHREIN TO NICOSIA																						1040 N.MI.			
55,000	-56.5	-65	-9	-6	-5	-64	-7	-5	-4	-71	-15	-13	-12	-68	-11	-9	-7	-67	-10	-8	-6	4	5	5	4
40,000	-56.5	-54	2	5	6	-54	2	5	7	-46	10	12	13	-55	2	4	5	-52	4	7	9	4	5	5	5
30,000	-44.5	-44	0	5	4	-40	4	6	7	-26	18	20	21	-37	7	9	10	-37	7	11	13	5	5	5	5
20,000	-21.2	-18	5	5	7	-15	7	9	10	-5	18	20	21	-11	10	12	13	-12	10	13	15	5	5	5	2
10,000	-4.6	-2	5	5	6	5	8	10	11	14	19	20	21	7	11	13	14	6	10	13	15	5	5	2	5
BALTIMORE TO SAN JUAN																						1362 N.MI.			
55,000	-56.5	-71	-14	-12	-11	-68	-12	-10	-9	-68	-12	-10	-9	-72	-15	-13	-12	-70	-13	-11	-10	5	5	2	5
40,000	-56.5	-56	0	5	4	-57	-0	2	5	-56	0	2	2	-55	2	5	4	-56	0	5	4	4	5	2	5
30,000	-44.5	-40	5	7	8	-39	6	8	8	-34	10	12	12	-35	9	11	12	-37	8	9	10	5	2	2	5
20,000	-21.2	-13	9	11	12	-12	10	12	13	-7	14	15	16	-8	13	14	15	-10	11	13	14	5	5	2	2
10,000	-4.6	2	7	9	10	5	8	10	11	8	12	13	14	6	11	13	13	5	10	11	12	5	5	1	2
BANGALORE TO BANGKOK																						1559 N.MI.			
55,000	-56.5	-80	-23	-22	-20	-76	-20	-18	-16	-78	-23	-19	-18	-80	-24	-22	-21	-79	-22	-19	-18	5	5	4	5
40,000	-56.5	-56	0	5	4	-52	5	7	8	-55	4	6	7	-54	2	4	5	-54	5	5	6	5	5	5	5
30,000	-44.5	-32	13	14	15	-30	14	16	17	-29	15	17	17	-31	15	15	16	-31	14	15	16	2	5	2	2
20,000	-21.2	-6	16	17	18	-5	16	18	18	-4	17	18	18	-6	16	17	18	-5	16	17	18	2	2	2	2
10,000	-4.6	9	14	15	16	10	15	16	17	10	15	16	16	9	14	15	15	10	14	16	16	2	2	1	2
BANGALORE TO HYDERABAD																						280 N.MI.			
55,000	-56.5	-79	-22	-20	-19	-76	-19	-17	-15	-77	-21	-18	-17	-80	-23	-21	-20	-78	-21	-19	-17	5	4	4	5
40,000	-56.5	-56	0	5	5	-52	4	7	8	-50	6	9	10	-54	5	5	7	-55	5	6	8	4	4	4	4
30,000	-44.5	-33	12	14	15	-31	13	15	17	-28	16	18	19	-32	15	15	16	-31	15	16	17	5	5	3	3
20,000	-21.2	-7	15	16	17	-6	15	17	18	-4	17	19	19	-6	16	17	18	-6	16	17	18	2	3	2	2
10,000	-4.6	8	13	14	15	10	15	16	17	11	15	16	17	9	15	15	15	9	14	15	16	2	2	2	2
BANGALORE TO LEOPOLDVILLE																						5851 N.MI.			
55,000	-56.5	-79	-22	-21	-20	-78	-21	-19	-18	-76	-20	-18	-17	-78	-22	-20	-19	-78	-21	-19	-18	3	5	3	5
40,000	-56.5	-54	2	4	5	-52	5	7	8	-52	4	5	6	-52	4	5	6	-53	4	6	7	2	5	2	2
30,000	-44.5	-31	14	15	16	-30	15	16	17	-31	14	15	16	-31	14	15	16	-30	14	15	16	2	2	2	2
20,000	-21.2	-5	17	18	18	-5	16	18	18	-5	16	17	18	-6	16	17	17	-5	16	17	18	1	2	2	1
10,000	-4.6	10	14	15	16	10	15	16	16	10	14	16	16	10	14	15	16	10	14	15	16	2	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BANGALORE TO MADRAS																									146 N.MI.
55,000	-56.5	-80	-23	-21	-20	-76	-20	-17	-16	-78	-21	-19	-17	-80	-24	-22	-21	-79	-22	-19	-18	3	4	4	3
40,000	-56.5	-56	0	3	4	-52	5	7	8	-51	5	7	8	-54	3	5	6	-53	3	6	7	4	3	3	3
30,000	-44.5	-32	13	14	15	-31	14	16	17	-29	16	17	18	-32	13	14	15	-31	14	16	17	3	3	3	2
20,000	-21.2	-6	15	17	18	-6	15	17	18	-4	17	18	19	-6	16	17	18	-5	16	17	18	2	2	2	2
10,000	-4.6	9	13	15	15	10	15	16	17	10	15	16	16	9	14	15	15	10	14	15	16	2	2	2	2
BANGKOK TO BASKA																									3069 N.MI.
55,000	-56.5	-72	-16	-14	-12	-70	-14	-11	-10	-75	-18	-15	-14	-74	-17	-15	-13	-73	-16	-13	-12	4	4	4	4
40,000	-56.5	-55	2	4	6	-55	4	7	8	-49	8	10	12	-54	2	5	7	-55	4	7	9	4	4	4	4
30,000	-44.5	-37	7	10	11	-33	10	12	14	-27	18	20	21	-33	11	14	15	-33	12	15	16	4	4	3	3
20,000	-21.2	-12	10	12	13	-9	13	15	16	-3	18	20	21	-7	14	16	17	-8	14	16	18	3	3	2	3
10,000	-4.6	4	9	11	12	9	13	15	16	14	18	20	20	8	13	14	15	9	13	16	17	3	3	2	2
BANGKOK TO BEIRUT																									3706 N.MI.
55,000	-56.5	-70	-13	-11	-10	-68	-11	-9	-7	-73	-17	-14	-13	-71	-15	-12	-11	-71	-14	-11	-9	4	4	4	4
40,000	-56.5	-55	2	4	6	-53	3	6	8	-48	8	11	12	-54	2	5	6	-53	4	7	9	4	4	4	4
30,000	-44.5	-39	5	8	9	-37	8	10	12	-27	18	20	21	-35	10	12	13	-34	10	14	15	4	4	3	3
20,000	-21.2	-14	7	9	11	-10	11	13	14	-3	18	20	21	-9	13	14	15	-9	12	15	17	3	3	3	3
10,000	-4.6	2	7	9	10	7	11	13	15	14	18	20	20	7	12	14	15	7	12	15	16	3	3	2	3
BANGKOK TO BENGHAZI																									4473 N.MI.
55,000	-56.5	-69	-13	-10	-9	-67	-11	-8	-7	-73	-17	-14	-13	-71	-14	-12	-10	-70	-13	-10	-9	4	4	4	4
40,000	-56.5	-55	2	4	6	-54	3	6	7	-48	8	11	12	-55	2	4	6	-53	4	7	9	4	4	4	4
30,000	-44.5	-40	4	7	8	-37	7	10	11	-27	17	19	20	-35	9	12	13	-35	10	13	15	4	4	3	3
20,000	-21.2	-14	7	9	10	-11	10	12	13	-3	18	20	21	-9	12	14	15	-9	12	15	16	3	3	3	3
10,000	-4.6	1	5	8	9	6	11	13	14	13	18	19	20	7	12	13	14	7	12	14	16	3	3	2	3
BANGKOK TO BOMBAY																									1624 N.MI.
55,000	-56.5	-78	-22	-20	-18	-75	-19	-16	-15	-77	-21	-18	-17	-79	-22	-20	-19	-77	-21	-18	-16	3	4	4	3
40,000	-56.5	-56	0	3	4	-52	4	7	8	-51	5	8	9	-54	2	5	6	-53	3	6	7	3	3	4	4
30,000	-44.5	-33	11	13	14	-31	13	15	17	-28	16	18	19	-31	13	15	16	-31	13	16	17	3	3	2	3
20,000	-21.2	-7	14	16	17	-6	16	17	18	-4	17	18	19	-6	16	17	18	-5	16	17	18	2	3	2	2
10,000	-4.6	8	13	14	15	10	15	16	17	11	16	17	17	9	13	15	15	9	14	15	16	2	2	1	2
BANGKOK TO CAIRO																									3913 N.MI.
55,000	-56.5	-71	-15	-13	-11	-69	-13	-10	-9	-74	-18	-15	-14	-73	-16	-14	-13	-72	-15	-12	-11	3	4	4	4
40,000	-56.5	-55	2	4	6	-53	3	6	8	-48	8	11	12	-54	2	5	6	-53	4	7	9	4	4	4	4
30,000	-44.5	-38	6	9	10	-36	9	11	13	-27	18	20	21	-34	11	13	14	-34	11	14	16	4	4	3	3
20,000	-21.2	-13	9	11	12	-10	12	14	15	-3	18	20	21	-8	13	15	16	-8	13	16	17	3	3	2	2
10,000	-4.6	3	8	10	11	8	12	14	15	14	19	20	21	8	12	14	15	8	13	15	17	3	3	2	2
BANGKOK TO CALCUTTA																									868 N.MI.
55,000	-55.5	-77	-21	-19	-17	-74	-18	-15	-14	-77	-21	-18	-17	-77	-20	-18	-17	-76	-20	-17	-15	3	4	4	3
40,000	-55.5	-56	1	3	4	-52	5	7	8	-52	5	7	8	-54	2	4	6	-53	3	5	7	3	3	3	3
30,000	-44.5	-34	11	13	14	-31	13	15	16	-28	17	18	18	-31	13	15	16	-31	13	15	16	3	3	2	3
20,000	-21.2	-7	14	16	17	-6	16	17	18	-4	17	18	19	-6	16	17	18	-6	16	17	18	3	2	2	2
10,000	-4.6	8	12	14	15	10	14	16	16	11	16	17	17	9	13	14	15	9	14	15	16	2	2	1	2
BANGKOK TO COLOMBO																									1293 N.MI.
55,000	-56.5	-81	-24	-22	-21	-77	-21	-18	-17	-78	-22	-19	-18	-80	-24	-22	-21	-79	-23	-20	-19	3	3	3	3
40,000	-56.5	-56	1	3	4	-52	5	6	7	-54	3	4	5	-54	2	4	5	-54	3	5	6	3	2	2	2
30,000	-44.5	-31	13	15	15	-30	15	16	17	-30	15	16	16	-31	13	14	15	-31	14	16	17	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	16	18	18	-4	17	18	18	-5	16	17	17	-5	16	17	18	2	2	1	2
10,000	-4.6	10	14	15	16	10	15	16	17	10	14	15	16	9	14	15	15	10	14	15	16	2	2	1	2
BANGKOK TO DAMASCUS																									3668 N.MI.
55,000	-56.5	-70	-14	-11	-10	-68	-11	-9	-8	-74	-17	-14	-13	-71	-15	-12	-11	-71	-14	-11	-10	4	4	4	4
40,000	-56.5	-55	2	4	6	-53	3	6	8	-48	8	11	12	-54	2	5	6	-53	4	7	9	4	4	4	4
30,000	-44.5	-39	5	8	9	-37	8	10	12	-27	18	20	21	-34	10	12	14	-34	10	14	16	4	4	3	3
20,000	-21.2	-14	7	10	11	-10	11	13	14	-3	18	20	21	-8	13	15	16	-9	12	15	17	3	3	3	3
10,000	-4.6	2	7	9	10	7	12	14	15	14	18	20	20	7	12	14	15	8	12	15	16	3	3	2	3
BANGKOK TO DARWIN																									2394 N.MI.
55,000	-56.5	-82	-26	-24	-23	-80	-23	-22	-21	-78	-22	-20	-19	-80	-24	-22	-21	-80	-24	-21	-20	3	3	3	3
40,000	-56.5	-55	2	3	4	-52	5	6	7	-54	2	3	4	-54	2	3	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-31	14	15	15	-31	14	15	16	-31	13	15	15	-31	13	14	15	-31	13	15	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	16	17	18	-5	16	17	17	-6	16	17	17	-5	16	17	17	1	1	1	1
10,000	-4.6	10	14	15	15	10	15	16	16	9	14	15	15	10	14	15	15	10	14	15	16	1	1	1	1
BANGKOK TO DHAHRAN																									2918 N.MI.
55,000	-56.5	-74	-18	-16	-14	-73	-16	-13	-12	-76	-19	-16	-15	-76	-19	-17	-16	-75	-18	-15	-14	3	4	4	4
40,000	-56.5	-55	1	4	5	-52	4	7	8	-49	7	10	11	-54	3	5	7	-53	4	7	9	4	4	4	4
30,000	-44.5	-36	9	11	13	-34	11	14	15	-27	17	19	20	-32	12	14	15	-32	12	15	17	4	4	3	3
20,000	-21.2	-10	11	13	14	-7	14	16	17	-3	18	19	20	-6	15	16	17	-7	15	17	18	3	3	2	2
10,000	-4.6	6	10	12	13	10	14	16	17	13	18	19	20	8	13	14	15	9	14	16	17	3	3	2	2
BANGKOK TO DJAKARTA																									1259 N.MI.
55,000	-56.5	-82	-26	-24	-23	-79	-23	-21	-20	-78	-22	-20	-19	-80	-24	-22	-21	-80	-24	-21	-20	3	3	3	3
40,000	-56.5	-55	2	3	4	-52	5	6	7	-54	2	3	4	-54	2	3	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-31	14	15	15	-30	14	16	16	-31	14	15	15	-32	13	14	15	-31	14	15	16	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	17	18	18	-5	16	17	17	-6	16	17	17	-5	16	17	18	2	1	1	1
10,000	-4.6	9	14	15	15	10	15	16	16	9	14	15	15	9	14	15	15	10	14	15	16	1	1	1	1
BANGKOK TO HONG KONG																									925 N.MI.
55,000	-56.5	-77	-21	-19	-17	-77	-20	-18	-16	-76	-20	-17	-16	-75	-19	-17	-15	-76	-20	-17	-16	3	3	4	3
40,000	-56.5	-55	2	4	5	-52	5	6	7	-53	4	6	6	-54	3	4	5	-53	3	5	6	2	2	2	3
30,000	-44.5	-32	13	14	15	-30	14	16	17	-29	15	17	17	-30	14	16	16	-30	14	15	16	2	2	2	2
20,000	-21.2	-7	14	16	17	-5	17	18	18	-4	17	18	19	-6	16	17	18	-5	16	17	18	2	2	1	2
10,000	-4.6	7	11	13	14	10	15	16	16	11	16	16	17	9	13	15	15	9	14	15	16	2	2	1	2
BANGKOK TO KARACHI																									1998 N.MI.
55,000	-56.5	-76	-19	-17	-16	-73	-17	-14	-12	-76	-20	-17	-16	-77	-20	-18	-16	-75	-19	-16	-14	3	4	4	4
40,000	-56.5	-56	1	4	5	-52	4	7	8	-50	6	9	11	-54	2	5	7	-53	3	7	9	4	4	4	4
30,000	-44.5	-33	10	12	13	-33	12	14	16	-28	17	19	20	-32	13	15	16	-32	13	15	17	4	4	3	3
20,000	-21.2	-9	13	14	15	-7	15	17	18	-3	18	19	20	-6	15	17	18	-6	15	17	18	3	3	2	2
10,000	-4.6	7	11	13	14	10	14	16	17	12	17	18	19	8	13	14	15	9	14	16	17	2	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																				STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
BANGKOK TO KUALA LUMPUR																									650 N.MI.
53,000	-56.5	-82	-25	-23	-22	-79	-22	-21	-20	-78	-22	-20	-18	-80	-24	-22	-21	-80	-23	-21	-20	3	3	3	3
40,000	-56.5	-55	1	3	4	-52	5	6	7	-54	2	3	4	-54	2	3	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-31	13	14	15	-30	15	16	17	-30	14	15	16	-31	13	14	15	-31	14	15	16	2	2	1	2
20,000	-21.2	-5	16	18	18	-4	17	18	19	-5	17	17	17	-6	16	17	17	-5	16	18	18	2	2	1	2
10,000	- 4.6	9	14	15	15	10	15	16	16	10	14	15	15	9	14	15	15	10	14	15	16	2	1	1	1
BANGKOK TO LISBON																									5762 N.MI.
53,000	-56.5	-63	-6	-3	-2	-61	-4	-2	-0	-64	-7	-5	-3	-64	-8	-5	-4	-63	-6	-3	-2	4	4	4	4
40,000	-56.5	-56	0	3	5	-55	2	5	7	-49	7	10	11	-55	1	4	5	-54	3	6	8	5	5	4	4
30,000	-44.5	-45	-1	2	3	-42	3	6	7	-32	13	15	16	-39	6	8	10	-39	5	9	11	4	4	3	4
20,000	-21.2	-20	1	4	5	-15	6	9	10	-7	14	16	17	-13	8	11	12	-14	7	11	13	4	4	3	3
10,000	- 4.6	-4	0	3	5	1	6	8	10	9	14	16	17	3	7	10	11	2	7	10	12	4	4	3	4
BANGKOK TO MADRID																									5485 N.MI.
53,000	-56.5	-63	-6	-3	-2	-61	-5	-2	-1	-64	-7	-5	-3	-64	-8	-5	-4	-63	-6	-4	-2	4	4	4	4
40,000	-56.5	-56	0	3	5	-55	2	5	7	-49	7	10	11	-55	1	4	6	-54	3	6	8	5	5	4	4
30,000	-44.5	-45	-1	2	3	-41	3	6	7	-32	13	15	17	-39	6	8	10	-39	5	9	11	4	4	3	4
20,000	-21.2	-20	1	4	5	-13	6	9	10	-7	15	16	17	-13	8	11	12	-14	8	11	13	4	4	3	3
10,000	- 4.6	-4	0	3	5	1	6	8	10	9	14	16	17	3	8	10	11	2	7	10	12	4	4	3	4
BANGKOK TO MANILA																									1188 N.MI.
53,000	-56.5	-80	-23	-21	-20	-79	-23	-20	-19	-78	-21	-19	-18	-78	-22	-20	-19	-79	-22	-20	-18	3	3	4	3
40,000	-56.5	-55	2	3	4	-52	5	6	7	-54	2	4	5	-54	2	4	5	-54	3	5	5	2	2	2	2
30,000	-44.5	-31	13	15	15	-30	15	16	17	-30	14	15	16	-31	14	15	16	-30	14	15	16	2	2	1	2
20,000	-21.2	-5	16	17	18	-4	17	16	19	-4	17	18	18	-5	16	17	17	-5	16	18	18	2	2	1	2
10,000	- 4.6	9	14	15	15	10	15	16	17	11	15	16	16	10	14	15	16	10	14	15	16	2	2	1	1
BANGKOK TO MILAN																									4884 N.MI.
53,000	-56.5	-63	-6	-3	-2	-61	-4	-2	-0	-63	-6	-4	-2	-64	-7	-5	-3	-62	-6	-3	-2	4	4	4	4
40,000	-56.5	-56	0	3	5	-54	2	5	7	-49	8	10	12	-55	2	4	6	-54	3	7	9	4	5	4	4
30,000	-44.5	-45	-1	2	3	-41	3	6	7	-32	13	15	17	-39	6	8	10	-39	5	9	11	4	4	4	4
20,000	-21.2	-20	1	4	5	-15	6	9	10	-7	14	16	17	-13	8	11	12	-14	7	11	13	4	4	3	4
10,000	- 4.6	-5	-0	3	4	1	6	8	10	9	13	15	16	2	7	10	11	2	6	10	11	4	4	3	4
BANGKOK TO NEW DELHI																									1576 N.MI.
53,000	-56.5	-75	-18	-16	-15	-71	-15	-12	-11	-76	-19	-16	-15	-75	-18	-16	-14	-74	-18	-14	-13	3	4	4	4
40,000	-56.5	-55	1	4	5	-52	4	7	8	-50	6	9	10	-54	2	5	7	-53	3	7	8	4	4	4	4
30,000	-44.5	-36	9	11	13	-33	11	14	15	-27	17	19	20	-32	12	15	16	-32	12	15	17	4	4	2	3
20,000	-21.2	-10	12	13	15	-8	14	16	17	-5	18	19	20	-6	15	17	18	-7	15	17	18	3	3	2	2
10,000	- 4.6	6	10	12	13	9	13	15	16	12	16	17	18	8	13	14	15	9	13	15	16	3	3	2	2
BANGKOK TO OKINAWA																									1698 N.MI.
53,000	-56.5	-75	-19	-16	-15	-75	-19	-16	-15	-75	-18	-15	-14	-73	-17	-14	-13	-75	-18	-15	-14	4	4	4	4
40,000	-56.5	-53	3	5	6	-52	4	6	7	-52	5	7	8	-53	3	5	6	-53	4	6	7	3	3	3	3
30,000	-44.5	-32	13	14	15	-31	13	15	16	-29	15	17	18	-30	14	16	17	-31	14	16	17	2	2	2	2
20,000	-21.2	-8	13	15	16	-6	16	17	18	-4	17	18	19	-6	15	17	18	-6	15	17	18	2	2	2	2
10,000	- 4.6	6	10	12	13	9	13	15	16	11	16	17	17	9	13	15	15	9	13	15	15	2	2	1	2
BANGKOK TO RANGOON																									515 N.MI.
53,000	-56.5	-79	-23	-21	-20	-77	-20	-18	-17	-78	-21	-19	-17	-79	-22	-20	-19	-78	-22	-19	-18	3	3	4	3
40,000	-56.5	-56	1	2	3	-52	5	6	7	-53	1	5	6	-54	2	4	5	-54	3	5	6	3	2	3	3
30,000	-44.5	-32	12	14	15	-10	15	16	17	-29	15	16	17	-31	13	15	16	-31	14	15	16	2	2	1	2
20,000	-21.2	-6	15	17	16	-4	17	18	19	-4	17	18	18	-6	16	17	18	-5	16	18	18	2	2	1	2
10,000	- 4.6	8	13	14	15	10	15	16	17	11	15	16	16	9	14	15	15	9	14	15	16	2	2	1	2
BANGKOK TO ROME																									4759 N.MI.
53,000	-56.5	-64	-8	-5	-3	-62	-6	-3	-2	-66	-10	-7	-6	-65	-9	-6	-5	-64	-8	-5	-3	4	4	4	4
40,000	-56.5	-56	1	4	5	-54	2	5	7	-48	8	11	12	-55	2	4	6	-53	3	7	9	4	5	4	4
30,000	-44.5	-44	0	3	4	-40	4	7	8	-30	14	17	18	-38	7	9	10	-38	6	10	12	4	4	3	4
20,000	-21.2	-19	2	5	6	-14	7	10	11	-6	16	18	19	-12	9	11	13	-13	9	12	14	4	4	3	3
10,000	- 4.6	-3	1	4	5	2	7	10	11	10	15	17	17	4	9	11	12	3	8	11	13	4	4	3	3
BANGKOK TO SEOUL																									1992 N.MI.
53,000	-56.5	-69	-13	-10	-6	-70	-13	-10	-9	-71	-14	-11	-9	-69	-13	-10	-8	-70	-13	-10	-8	4	4	4	4
40,000	-56.5	-53	4	6	7	-52	4	6	8	-50	7	9	10	-53	4	6	7	-52	5	7	9	3	3	3	3
30,000	-44.5	-37	8	10	11	-34	10	12	13	-28	17	19	20	-32	12	14	16	-33	12	15	16	3	3	3	3
20,000	-21.2	-14	7	10	11	-9	12	14	15	-4	17	19	19	-9	12	15	16	-9	12	15	16	3	3	2	3
10,000	- 4.6	-1	4	6	8	4	9	11	12	11	16	17	17	6	10	12	13	5	10	12	13	3	3	2	3
BANGKOK TO SINGAPORE																									778 N.MI.
53,000	-56.5	-82	-25	-23	-22	-79	-23	-21	-20	-78	-22	-20	-19	-80	-24	-22	-21	-80	-23	-21	-20	3	3	3	3
40,000	-56.5	-55	1	3	4	-52	5	6	7	-54	2	3	4	-54	2	3	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-31	13	15	15	-30	15	16	17	-30	14	15	16	-31	13	14	15	-31	14	15	16	2	2	1	2
20,000	-21.2	-5	16	18	18	-4	17	18	19	-5	16	17	17	-6	16	17	17	-5	16	18	18	2	2	1	2
10,000	- 4.6	9	14	15	15	10	15	16	16	10	14	15	15	9	14	15	15	10	14	15	16	1	1	1	1
BANGKOK TO TAIPEI																									1358 N.MI.
53,000	-56.5	-76	-20	-17	-16	-76	-19	-17	-16	-75	-19	-16	-15	-74	-18	-15	-14	-75	-19	-16	-15	4	4	4	4
40,000	-56.5	-54	3	4	5	-52	5	6	7	-52	5	6	7	-53	3	5	6	-53	4	6	6	3	2	3	3
30,000	-44.5	-32	12	14	15	-31	14	15	16	-29	16	17	17	-30	14	16	17	-30	14	16	16	2	2	2	2
20,000	-21.2	-8	14	15	16	-5	16	17	18	-4	17	18	19	-6	15	17	18	-6	16	17	18	2	2	1	2
10,000	- 4.6	6	11	12	13	9	14	15	16	11	16	16	17	9	13	15	15	9	13	15	15	3	2	1	2
BANGKOK TO TEL AVIV-JAFFA																									3733 N.MI.
53,000	-56.5	-71	-14	-12	-11	-69	-12	-10	-8	-74	-17	-15	-13	-72	-16	-13	-12	-71	-15	-12	-10	4	4	4	4
40,000	-56.5	-55	2	4	6	-53	3	6	8	-48	8	11	12	-54	2	5	6	-53	4	7	9	4	4	4	4
30,000	-44.5	-19	6	8	10	-36	8	11	12	-27	18	20	21	-34	10	13	14	-34	11	14	16	4	4	3	3
20,000	-21.2	-13	8	10	11	-10	11	13	15	-3	18	20	21	-8	13	15	16	-8	13	16	17	3	3	3	3
10,000	- 4.6	3	7	9	10	7	12	14	15	14	18	20	21	8	12	14	15	8	12	15	16	3	3	2	3
BANGKOK TO TOKYO																									2474 N.MI.
53,000	-56.5	-70	-11	-10	-9	-70	-14	-11	-10	-71	-14	-11	-10	-70	-13	-10	-9	-70	-14	-11	-9	4	4	5	4
40,000	-56.5	-52	4	7	8	-53	4	6	7	-50	6	9	10	-53	4	6	7	-52	5	7	8	3	3	3	3
30,000	-44.5	-35	9	12	13	-34	11	13	14	-28	16	18	19	-31	14	16	17	-32	13	15	17	3	3	3	3
20,000	-21.2	-13	9	11	12	-8	13	15	16	-4	17	19	19	-7	14	16	17	-8	13	15	17	3	3	2	3
10,000	- 4.6	0	5	7	8	5	10	12	13	11	16	17	17	7	11	13	14	6	10	13	14	3	3	2	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BANGKOK TO TRIPOLI																									4827 N.MI.
53,000	-56.5	-68	-12	-9	-8	-66	-9	-7	-6	-72	-16	-13	-12	-69	-13	-10	-9	-69	-12	-9	-8	4	4	4	4
40,000	-56.5	-55	2	4	6	-54	2	6	7	-48	8	11	12	-55	2	4	6	-53	4	7	9	4	5	4	4
30,000	-44.5	-41	3	6	7	-38	6	9	10	-28	17	19	20	-36	9	11	12	-36	9	12	14	4	4	3	3
20,000	-21.2	-16	6	8	9	-12	9	11	13	-4	18	19	20	-10	12	13	14	-10	11	14	16	3	3	3	3
10,000	- 4.6	0	5	7	8	5	10	12	13	13	17	19	20	7	11	13	14	6	11	14	15	3	3	2	3
BANGKOK TO TUNIS																									4920 N.MI.
53,000	-56.5	-66	-9	-6	-5	-64	-7	-5	-3	-69	-13	-10	-9	-67	-11	-8	-7	-66	-10	-7	-5	4	4	4	4
40,000	-56.5	-55	1	4	6	-54	2	5	7	-48	8	11	12	-55	1	4	5	-53	3	7	9	4	5	4	4
30,000	-44.5	-43	2	4	6	-40	5	7	9	-29	15	18	19	-37	7	10	11	-37	7	11	13	4	4	3	3
20,000	-21.2	-18	4	6	7	-13	8	10	12	-5	17	18	19	-11	10	12	13	-12	10	13	15	4	4	3	3
10,000	- 4.6	-2	3	5	7	4	8	11	12	12	16	18	19	5	10	12	13	5	9	12	14	4	3	2	3
BARBADOS TO BERMUDA																									1192 N.MI.
53,000	-56.5	-74	-17	-15	-14	-73	-16	-15	-14	-70	-14	-12	-12	-75	-18	-16	-15	-73	-16	-14	-13	3	3	2	3
40,000	-56.5	-55	2	4	5	-56	1	3	4	-56	1	2	2	-54	2	3	4	-55	1	3	4	3	3	2	2
30,000	-44.5	-37	7	9	10	-36	9	10	11	-34	10	11	12	-33	11	13	13	-35	9	11	12	3	2	2	2
20,000	-21.2	-10	11	13	14	-9	12	14	15	-7	14	15	16	-7	14	15	16	-8	13	15	15	2	2	2	2
10,000	- 4.6	6	10	12	13	6	11	12	13	8	13	14	14	8	[illegible]	[illegible]	15	7	12	13	13	3	2	1	2
BARBADOS TO CARACAS																									464 N.MI.
53,000	-56.5	-78	-21	-20	-19	-78	-21	-20	-19	-73	-17	-15	-14	-77	[illegible]	[illegible]	-18	-77	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	5	5	-53	4	5	6	-55	1	3	3	-54	3	4	4	-54	3	4	5	3	2	2	2
30,000	-44.5	-33	11	12	13	-31	13	14	15	-33	11	12	13	-31	13	14	15	-32	12	13	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-6	15	17	17	-7	14	15	16	-6	16	17	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	15	2	2	1	1
BARBADOS TO FT. DE FRANCE																									131 N.MI.
53,000	-56.5	-78	-21	-19	-18	-78	-22	-20	-19	-73	-16	-15	-14	-77	-21	-19	-18	-76	-20	-18	-16	3	3	2	3
40,000	-56.5	-54	3	5	6	-54	3	5	5	-55	1	3	3	-54	3	4	4	-54	2	4	5	3	3	2	2
30,000	-44.5	-34	11	12	13	-32	12	13	14	-34	11	12	13	-32	13	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-7	14	15	16	-6	15	16	17	-7	14	15	16	-6	16	17	17	-6	15	16	16	2	2	1	1
10,000	- 4.6	8	13	14	15	9	13	15	15	9	14	15	15	9	14	15	15	9	13	14	15	2	2	1	1
BARBADOS TO GEORGETOWN																									401 N.MI.
53,000	-56.5	-78	-22	-20	-19	-78	-22	-20	-19	-73	-17	-15	-14	-77	-21	-19	-18	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-53	4	5	6	-55	2	3	4	-54	3	4	5	-54	3	5	6	3	3	2	2
30,000	-44.5	-33	11	13	13	-31	14	15	15	-33	12	13	13	-31	14	15	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-6	15	16	17	-6	16	17	18	-7	14	15	16	-6	16	17	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	9	13	15	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	16	2	2	1	2
BARBADOS TO GRENADA																									136 N.MI.
53,000	-56.5	-78	-21	-20	-19	-78	-22	-20	-19	-73	-16	-15	-14	-77	-21	-19	-18	-77	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	5	6	-53	3	5	6	-55	1	3	3	-54	3	4	5	-54	3	4	5	3	3	2	2
30,000	-44.5	-34	11	12	13	-32	13	14	15	-33	11	12	13	-31	13	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-7	14	16	16	-6	15	16	17	-7	14	15	16	-6	16	17	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	14	15	15	9	14	15	15	9	14	15	16	9	14	15	15	2	2	1	1
BARBADOS TO KINGSTON																									1041 N.MI.
53,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-18	-73	-16	-15	-14	-77	-21	-19	-18	-76	-20	-17	-16	3	3	2	3
40,000	-56.5	-54	3	4	5	-53	3	4	5	-56	1	2	3	-54	3	4	4	-54	2	4	5	3	2	2	2
30,000	-44.5	-34	10	12	12	-33	12	13	14	-33	11	12	13	-32	13	14	14	-33	12	13	13	2	2	1	1
20,000	-21.2	-7	14	15	16	-6	15	16	17	-7	14	15	16	-6	16	16	17	-7	15	16	16	2	2	1	1
10,000	- 4.6	8	12	14	14	8	13	14	15	9	14	14	15	9	14	15	15	9	13	14	15	2	2	1	1
BARBADOS TO LAJES																									2308 N.MI.
53,000	-56.5	-70	-14	-11	-10	-69	-13	-11	-10	-68	-12	-10	-9	-71	-15	-13	-12	-70	-13	-11	-10	3	3	3	3
40,000	-56.5	-56	0	3	4	-57	-0	2	4	-55	2	3	4	-55	1	3	4	-56	1	3	3	4	4	2	3
30,000	-44.5	-40	5	7	8	-38	7	8	9	-35	9	11	11	-35	10	11	12	-37	8	10	11	3	2	2	2
20,000	-21.2	-12	9	11	12	-11	10	12	13	-8	13	15	15	-8	13	14	15	-10	11	13	14	3	3	2	2
10,000	- 4.6	4	8	10	11	4	9	10	11	8	12	13	14	7	12	13	14	6	10	12	13	3	2	2	2
BARBADOS TO LONDON																									3643 N.MI.
53,000	-56.5	-66	-9	-7	-5	-64	-7	-5	-4	-63	-6	-4	-3	-66	-10	-8	-6	-65	-8	-6	-4	4	3	3	3
40,000	-56.5	-57	-1	3	5	-57	-1	3	4	-54	2	5	6	-56	1	3	5	-56	1	3	5	5	5	3	4
30,000	-44.5	-43	2	4	5	-41	4	5	6	-37	8	10	11	-38	7	9	10	-40	5	7	9	3	3	3	3
20,000	-21.2	-16	5	7	9	-15	6	9	10	-10	12	13	14	-11	10	12	13	-13	8	10	12	4	3	2	3
10,000	- 4.6	-0	4	7	8	1	5	8	9	6	10	12	13	4	8	10	11	3	7	9	10	4	3	2	3
BARBADOS TO MIAMI																									1400 N.MI.
53,000	-56.5	-76	-19	-18	-17	-75	-19	-17	-16	-72	-15	-14	-13	-76	-20	-18	-17	-75	-18	-16	-15	3	3	2	3
40,000	-56.5	-54	2	4	5	-54	2	4	4	-56	0	2	2	-54	2	4	4	-55	2	3	4	3	2	2	2
30,000	-44.5	-36	9	10	11	-34	10	11	12	-34	11	12	12	-32	12	13	14	-34	10	12	13	2	2	1	2
20,000	-21.2	-8	13	14	15	-8	14	15	16	-7	14	15	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	- 4.6	7	12	13	14	7	12	13	14	9	13	14	14	9	13	14	15	8	13	14	14	2	2	1	1
BARBADOS TO MONTREAL																									2075 N.MI.
53,000	-56.5	-69	-13	-11	-9	-68	-11	-9	-8	-67	-11	-9	-8	-70	-14	-12	-10	-69	-12	-10	-9	3	3	3	4
40,000	-56.5	-56	1	3	5	-56	0	3	4	-56	1	2	3	-55	2	4	5	-56	1	3	4	4	4	2	3
30,000	-44.5	-41	4	6	7	-39	5	7	8	-35	10	11	12	-36	9	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	10	-13	8	10	11	-8	13	15	15	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	1	5	8	9	2	7	9	10	7	12	13	14	6	10	12	13	4	8	10	11	4	3	2	3
BARBADOS TO NASSAU																									1245 N.MI.
53,000	-56.5	-76	-19	-18	-17	-75	-19	-17	-16	-72	-15	-14	-13	-76	-20	-18	-17	-75	-18	-16	-15	3	3	2	3
40,000	-56.5	-54	2	4	5	-54	2	4	4	-56	1	2	2	-54	2	4	4	-55	2	3	4	3	2	2	2
30,000	-44.5	-36	9	10	11	-34	10	12	12	-34	11	12	12	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	13	14	15	-7	14	15	16	-7	14	15	16	-6	15	16	17	-7	14	15	16	2	2	1	1
10,000	- 4.6	7	12	13	14	8	12	13	14	9	13	14	15	9	13	14	15	8	13	14	14	2	2	1	1
BARBADOS TO NEW YORK																									1817 N.MI.
53,000	-56.5	-71	-15	-13	-11	-70	-13	-11	-10	-69	-12	-10	-10	-72	-16	-13	-12	-70	-14	-12	-11	3	3	2	3
40,000	-56.5	-56	1	3	4	-56	0	2	4	-56	1	2	3	-55	2	3	4	-56	1	3	4	4	3	2	3
30,000	-44.5	-39	5	7	8	-38	7	8	9	-34	10	11	12	-35	10	11	12	-37	8	10	11	3	2	2	2
20,000	-21.2	-12	9	11	12	-11	10	12	13	-7	14	15	16	-8	13	14	15	-10	11	13	14	3	3	2	2
10,000	- 4.6	3	7	9	11	4	8	10	11	8	12	13	14	7	11	13	14	5	10	11	12	3	3	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																				STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50*D50	D75	D85		50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
BARBADOS TO POINTE A PITRE																									226 N.MI.
55,000	-56.5	-77	-21	-19	-18	-78	-21	-20	-19	-73	-16	-15	-14	-77	-21	-19	-18	-76	-20	-18	-16	3	3	2	3
40,000	-56.5	-54	3	5	6	-54	3	4	5	-55	1	2	3	-54	3	4	4	-54	2	4	4	3	2	2	2
30,000	-44.5	-34	11	12	13	-32	12	13	14	-34	11	12	12	-32	13	14	14	-33	12	13	14	2	2	2	2
20,000	-21.2	-7	14	15	16	-7	15	16	17	-7	14	15	36	-6	16	17	17	-7	35	16	16	2	2	1	1
10,000	- 4.6	8	13	14	15	9	13	14	15	9	14	15	15	9	14	15	15	9	35	14	15	2	2	1	1
BARBADOS TO PORT OF SPAIN																									184 N.MI.
55,000	-56.5	-78	-21	-20	-19	-78	-22	-20	-19	-73	-17	-15	-14	-77	-21	-19	-18	-77	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	5	5	-53	3	5	6	-55	1	3	4	-54	3	4	5	-54	3	4	5	3	3	2	2
30,000	-44.5	-13	11	12	13	-31	13	14	15	-33	11	12	13	-33	13	14	15	-32	12	13	14	2	2	2	2
20,000	-21.2	-7	15	16	17	-6	15	16	17	-7	14	15	16	-6	16	17	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	35	2	2	1	2
BARBADOS TO SAN JUAN																									495 N.MI.
55,000	-56.5	-77	-20	-19	-18	-77	-21	-19	-18	-73	-16	-15	-14	-77	-20	-19	-18	-76	-19	-17	-36	3	3	2	3
40,000	-56.5	-54	1	5	6	-54	3	4	5	-56	1	2	3	-54	3	4	4	-54	2	4	4	3	2	2	2
30,000	-44.5	-34	10	12	12	-33	12	13	13	-34	11	12	12	-32	13	14	14	-33	11	13	13	2	2	1	2
20,000	-21.2	-7	14	15	16	-7	14	16	16	-7	14	15	16	-6	16	16	17	-7	15	16	16	2	2	1	1
10,000	- 4.6	8	12	14	14	6	13	14	15	9	14	14	15	9	14	15	15	9	33	14	35	2	2	3	1
BARBADOS TO ST.LUCIA																									95 N.MI.
55,000	-56.5	-78	-21	-19	-16	-78	-22	-20	-19	-73	-16	-15	-14	-77	-21	-19	-18	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	5	6	-54	3	5	6	-55	1	3	3	-54	3	4	4	-54	2	4	5	3	3	2	2
30,000	-44.5	-34	11	12	13	-32	12	14	14	-34	11	12	13	-32	13	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-7	14	16	16	-6	15	16	17	-7	14	15	16	-6	16	17	17	-6	15	16	37	2	2	1	1
10,000	- 4.6	8	11	14	15	9	15	15	15	9	14	15	15	9	14	15	15	9	13	15	15	2	2	1	1
BARBADOS TO ST. VINCENT																									101 N.MI.
55,000	-56.5	-78	-21	-19	-18	-78	-22	-20	-19	-73	-16	-15	-14	-77	-21	-19	-18	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	5	6	-53	3	5	6	-55	1	3	3	-54	3	4	4	-54	2	4	5	3	3	2	2
30,000	-44.5	-34	11	12	13	-32	13	14	14	-31	11	12	13	-32	13	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-7	14	16	16	-6	15	16	17	-7	14	15	16	-6	16	17	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	11	14	15	9	13	15	15	9	14	15	15	9	14	15	15	9	13	15	15	2	2	1	1
BARBADOS TO TAMPA																									1569 N.MI.
55,000	-56.5	-75	-19	-17	-16	-74	-16	-16	-15	-72	-15	-14	-13	-76	-20	-17	-16	-74	-16	-18	-15	3	3	2	3
40,000	-56.5	-55	2	4	5	-55	2	3	4	-56	0	2	2	-54	2	4	4	-55	2	3	4	3	2	2	2
30,000	-44.5	-36	8	10	11	-33	10	31	12	-34	11	12	12	-33	12	13	14	-34	10	12	13	2	2	1	2
20,000	-21.2	-9	13	14	15	-8	13	15	15	-7	14	15	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	- 4.6	7	11	13	15	7	12	13	14	9	13	14	14	9	13	14	15	8	12	13	14	2	2	1	2
BARBADOS TO TORONTO																									2110 N.MI.
55,000	-56.5	-70	-13	-11	-10	-68	-12	-10	-9	-68	-11	-10	-9	-71	-15	-12	-11	-69	-13	-11	-10	3	3	3	3
40,000	-56.5	-56	1	3	5	-56	0	3	4	-56	1	2	3	-55	2	4	5	-56	1	3	4	4	4	2	3
30,000	-44.5	-40	4	6	7	-39	4	7	8	-35	10	11	12	-36	9	11	12	-37	7	9	10	3	3	2	3
20,000	-21.2	-13	6	10	11	-12	9	11	12	-8	14	15	15	-9	12	14	15	-11	11	13	14	3	3	2	3
10,000	- 4.6	1	6	8	9	3	7	9	10	7	12	13	14	6	11	12	13	4	9	11	12	3	3	2	3
BARBADOS TO TRINIDAD																									184 N.MI.
55,000	-56.5	-78	-21	-20	-19	-78	-22	-20	-19	-73	-17	-15	-14	-77	-21	-19	-13	-77	-2	-18	-37	3	3	2	3
40,000	-56.5	-54	3	5	5	-51	3	5	6	-55	1	3	4	-54	3	4	5	-54	3	4	5	3	3	2	2
30,000	-44.5	-33	11	12	13	-31	13	14	15	-34	11	12	13	-31	13	14	15	-32	12	13	14	2	2	2	2
20,000	-21.2	-7	15	16	17	-6	15	16	17	-7	14	15	16	-6	16	17	17	-6	35	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	15	2	2	1	2
BARCELONA TO BASRA																									2284 N.MI.
55,000	-56.5	-59	-3	-0	1	-58	-2	0	2	-64	-8	-6	-4	-62	-6	-4	-2	-61	-5	-2	-0	4	3	3	3
40,000	-56.5	-56	0	4	5	-56	0	3	5	-48	8	11	12	-56	0	3	4	-54	2	6	8	5	5	3	1
30,000	-44.5	-48	-3	-1	0	-45	-0	2	1	-32	12	14	15	-41	4	6	7	-41	3	7	9	3	3	3	3
20,000	-21.2	-22	-1	2	3	-18	3	5	7	-7	14	16	17	-14	7	9	10	-15	6	9	11	4	4	3	3
10,000	- 4.6	-6	-1	1	3	-1	4	6	8	9	14	16	17	3	7	9	11	1	6	9	11	4	4	3	3
BARCELONA TO BEIRUT																									1640 N.MI.
55,000	-56.5	-59	-2	1	2	-58	-1	1	3	-63	-6	-4	-3	-62	-5	-1	-2	-60	-4	-1	1	4	4	3	3
40,000	-56.5	-56	0	3	5	-57	-1	1	5	-49	8	10	11	-56	0	2	4	-55	2	5	7	5	5	3	3
30,000	-44.5	-48	-4	-1	-0	-45	-1	2	3	-34	10	13	14	-41	3	6	7	-42	2	6	8	3	3	3	3
20,000	-21.2	-23	-2	1	3	-19	2	5	6	-9	12	14	15	-15	7	9	10	-16	5	8	30	4	4	3	3
10,000	- 4.6	-6	-2	1	2	-2	3	6	7	8	12	14	15	2	6	9	10	0	5	8	30	4	4	3	3
BARCELONA TO BRUSSELS																									585 N.MI.
55,000	-56.5	-58	-1	2	4	-55	1	4	5	-54	2	5	6	-59	-3	-0	1	-57	-0	3	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	1	5	-53	4	7	8	-56	0	3	5	-56	0	4	6	6	6	5	4
10,000	-44.5	-49	-5	-2	-1	-47	-2	0	2	-39	8	8	9	-43	2	5	6	-44	0	4	5	4	4	4	4
20,000	-21.2	-25	-3	0	2	-21	0	3	5	-12	9	11	12	-17	5	7	9	-19	3	6	8	5	4	3	4
10,000	- 4.6	-8	-3	0	2	-4	0	3	5	4	9	11	12	-1	4	6	8	-2	2	6	8	5	4	3	4
BARCELONA TO BUDAPEST																									821 N.MI.
55,000	-56.5	-57	-0	3	5	-55	1	4	4	-55	2	4	5	-59	-3	-0	1	-57	-0	3	4	5	4	3	4
40,000	-56.5	-58	-1	2	4	-57	-1	1	4	-52	4	7	9	-56	0	3	4	-56	0	4	6	5	5	4	4
10,000	-44.5	-50	-5	-3	-1	-47	-2	0	2	-38	6	8	10	-42	2	5	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-25	-4	-1	1	-21	1	1	5	-12	9	11	12	-16	5	7	9	-19	3	6	8	5	4	3	4
10,000	- 4.6	-9	-4	-1	1	-4	0	3	4	4	9	11	12	-1	4	6	8	-2	2	6	8	5	4	3	4
BARCELONA TO CAIRO																									1568 N.MI.
51,000	-56.5	-60	-4	-1	0	-59	-2	-0	1	-65	-8	-6	-5	-63	-6	-4	-3	-62	-5	-2	-1	4	3	3	3
40,000	-56.5	-56	0	4	5	-57	-0	3	5	-49	8	10	11	-56	0	3	4	-55	2	5	7	5	5	3	3
30,000	-44.5	-47	-3	-0	1	-44	0	3	4	-33	11	13	15	-40	4	6	8	-41	3	7	9	3	3	3	3
20,000	-21.2	-21	-0	3	4	-17	4	6	7	-8	13	15	16	-14	7	9	10	-15	6	9	11	4	3	3	3
10,000	- 4.6	-5	-0	2	4	-0	4	7	8	9	14	15	16	3	7	9	10	2	6	9	11	4	4	3	1
BARCELONA TO CARACAS																									4039 N.MI.
55,000	-56.5	-68	-11	-9	-8	-67	-10	-8	-7	-67	-10	-8	-7	-69	-13	-11	-9	-68	-11	-9	-8	4	3	3	3
40,000	-56.5	-57	-0	3	4	-57	-0	2	4	-54	2	4	5	-55	1	3	4	-56	1	3	4	4	4	3	3
30,000	-44.5	-41	3	5	6	-39	5	7	8	-35	9	11	11	-36	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	10	-13	9	11	12	-8	13	14	15	-9	12	13	14	-11	10	12	13	3	3	2	2
10,000	- 4.6	2	7	9	10	3	8	10	11	8	12	14	14	6	10	12	13	5	9	11	12	3	3	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	D50*	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
BARCELONA TO CUMANA																									5912 N.MI.
35,000	-56.5	-68	-11	-9	-8	-67	-10	-8	-7	-67	-10	-8	-7	-69	-13	-11	-10	-68	-11	-9	-8	4	3	3	3
40,000	-56.5	-57	-0	3	4	-57	-0	2	4	-54	2	4	5	-55	1	3	4	-56	1	3	4	4	4	3	3
30,000	-44.5	-41	3	5	6	-39	6	7	8	-35	9	11	12	-36	8	10	11	-38	7	9	10	3	2	2	3
20,000	-21.2	-14	7	9	10	-13	9	11	12	-8	13	14	15	-9	12	13	14	-11	10	12	13	3	3	2	2
10,000	- 4.6	2	7	9	10	3	8	10	11	8	13	14	15	6	10	12	13	5	9	11	12	3	3	2	2
BARCELONA TO DAKAR																									1891 N.MI.
35,000	-56.5	-67	-11	-8	-7	-66	-9	-7	-6	-69	-12	-10	-9	-69	-12	-10	-9	-68	-11	-9	-7	4	3	3	3
40,000	-56.5	-56	0	3	5	-55	1	4	6	-52	4	6	7	-55	2	4	5	-55	2	4	5	4	4	2	3
30,000	-44.5	-42	2	4	5	-39	6	7	8	-34	10	12	13	-37	8	9	10	-38	6	9	10	3	2	2	3
20,000	-21.2	-16	6	8	9	-13	8	10	11	-8	13	15	15	-10	11	13	13	-12	10	12	13	3	2	2	2
10,000	- 4.6	2	6	8	9	4	8	10	11	11	16	17	18	6	10	12	13	6	10	13	14	3	3	2	2
BARCELONA TO DUSSELDORF																									629 N.MI.
35,000	-56.5	-57	-1	3	4	-55	1	4	5	-54	2	5	6	-57	-3	-0	1	-56	0	3	5	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-53	4	7	9	-56	0	3	5	-56	0	4	6	6	6	5	4
30,000	-44.5	-49	-5	-2	-1	-47	-2	0	2	-39	5	8	9	-43	2	4	6	-44	0	3	5	4	4	4	4
20,000	-21.2	-25	-4	-0	2	-21	0	3	5	-12	9	11	12	-17	5	7	9	-19	2	6	8	5	4	3	4
10,000	- 4.6	-8	-4	-0	2	-4	0	3	4	4	8	11	12	-1	4	6	8	-2	2	6	7	5	4	3	4
BARCELONA TO FRANKFURT																									590 N.MI.
35,000	-56.5	-57	-1	3	4	-55	1	4	5	-54	2	4	6	-59	-3	-0	1	-57	-0	3	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-53	4	7	6	-56	0	3	4	-56	0	4	6	6	6	4	4
30,000	-44.5	-49	-5	-2	-1	-47	-2	0	2	-39	6	8	9	-43	2	5	5	-44	0	4	5	4	4	4	4
20,000	-21.2	-25	-4	-0	2	-21	1	3	5	-12	9	11	12	-16	5	7	9	-19	3	6	8	5	4	3	4
10,000	- 4.6	-8	-3	0	2	-4	0	3	5	4	9	11	12	-1	4	6	8	-2	2	6	8	5	4	3	4
BARCELONA TO GENEVA																									344 N.MI.
35,000	-56.5	-58	-1	2	4	-56	0	3	5	-56	0	3	4	-60	-3	-1	0	-57	-1	2	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	2	4	-53	3	6	8	-56	0	3	4	-56	0	4	6	6	6	4	4
30,000	-44.5	-49	-4	-2	-0	-46	-2	1	2	-38	6	9	10	-42	2	5	7	-44	1	4	6	4	4	3	4
20,000	-21.2	-24	-3	1	2	-20	1	4	5	-12	10	12	13	-16	5	8	9	-18	3	7	8	5	4	3	4
10,000	- 4.6	-7	-2	1	3	-3	1	4	5	5	10	12	13	-0	4	7	8	-1	3	7	9	5	4	3	4
BARCELONA TO GLASGOW																									908 N.MI.
35,000	-56.5	-58	-1	2	4	-55	2	5	6	-53	4	6	8	-58	-2	1	2	-56	1	4	5	5	4	4	4
40,000	-56.5	-58	-2	3	5	-56	0	5	7	-52	5	8	10	-56	0	4	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-49	-5	-2	-1	-47	-2	0	2	-40	5	7	8	-43	1	4	5	-45	-0	3	5	4	4	4	4
20,000	-21.2	-25	-3	0	2	-21	-0	3	4	-13	8	10	11	-17	4	7	8	-19	2	5	7	5	4	3	4
10,000	- 4.6	-8	-3	0	2	-5	-0	2	4	3	7	9	11	-2	3	5	7	-3	2	5	7	5	4	3	4
BARCELONA TO HAMBURG																									805 N.MI.
35,000	-56.5	-57	-1	3	5	-55	2	4	6	-53	3	6	7	-59	-2	0	2	-56	1	4	5	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-0	4	6	-52	4	7	9	-56	0	3	5	-56	1	4	7	6	6	5	5
30,000	-44.5	-50	-5	-3	-1	-47	-3	-0	1	-39	5	7	9	-43	1	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-4	-1	1	-21	-0	3	4	-13	8	10	12	-17	4	7	9	-19	2	5	7	5	4	3	4
10,000	- 4.6	-9	-4	-1	1	-5	-0	2	4	3	8	10	11	-2	3	6	7	-3	1	5	7	5	4	3	4
BARCELONA TO HELSINKI																									1418 N.MI.
35,000	-56.5	-57	-0	3	5	-54	3	5	7	-51	6	8	9	-58	-1	1	3	-55	2	5	6	5	4	3	4
40,000	-56.5	-59	-2	2	4	-56	1	5	7	-51	5	8	10	-56	0	4	5	-55	1	5	7	5	6	5	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-40	4	7	8	-44	0	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-28	-6	-3	-1	-23	-2	1	3	-14	7	10	11	-19	3	6	8	-21	0	4	6	6	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-7	-2	1	2	2	6	9	10	-4	1	4	6	-5	-1	3	5	6	5	3	5
BARCELONA TO ISTANBUL																									1204 N.MI.
35,000	-56.5	-57	-0	3	5	-56	0	3	4	-58	-2	1	2	-60	-4	-1	-0	-58	-1	2	3	5	4	3	3
40,000	-56.5	-57	-1	3	5	-57	-1	3	4	-50	6	9	10	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-49	-5	-3	-1	-46	-2	1	2	-37	8	10	11	-42	3	5	7	-44	1	5	6	4	4	3	4
20,000	-21.2	-24	-3	-0	1	-20	1	4	5	-11	11	12	13	-16	6	8	9	-18	4	7	9	4	4	3	3
10,000	- 4.6	-8	-3	-0	1	-3	1	4	6	6	10	13	14	0	5	7	8	-1	3	7	9	4	4	3	3
BARCELONA TO KANO																									1787 N.MI.
35,000	-56.5	-68	-12	-9	-8	-67	-10	-8	-7	-70	-14	-12	-13	-70	-13	-11	-10	-69	-12	-10	-8	3	3	3	3
40,000	-56.5	-55	1	4	6	-54	2	5	7	-51	5	7	7	-54	2	4	5	-54	3	5	6	4	4	2	3
30,000	-44.5	-42	2	4	5	-38	6	8	9	-35	12	13	14	-36	8	10	11	-37	7	10	11	2	2	2	2
20,000	-21.2	-15	6	8	9	-12	9	10	11	-7	15	16	17	-10	11	13	13	-11	10	12	13	3	2	2	2
10,000	- 4.6	2	6	8	9	5	10	11	12	13	17	19	19	6	11	12	13	6	11	14	15	3	3	2	2
BARCELONA TO LISBON																									536 N.MI.
35,000	-56.5	-59	-3	1	2	-58	-1	2	3	-60	-3	-1	0	-61	-5	-2	-1	-60	-3	0	2	5	4	4	3
40,000	-56.5	-58	-2	2	5	-58	-1	2	4	-53	3	6	7	-56	0	3	4	-56	0	3	5	6	5	4	4
30,000	-44.5	-47	-2	-0	1	-45	-0	2	3	-37	8	10	11	-41	4	6	8	-42	2	5	7	3	4	3	4
20,000	-21.2	-21	0	3	5	-18	3	5	6	-10	11	13	14	-14	7	9	10	-15	5	8	10	4	3	[illegible]	3
10,000	- 4.6	-4	1	4	5	-1	4	6	7	8	13	15	16	1	6	8	9	1	6	9	11	4	4	3	3
BARCELONA TO LONDON																									619 N.MI.
35,000	-56.5	-58	-1	2	4	-55	1	4	5	-54	2	5	6	-59	-3	-0	1	-57	-0	3	4	5	4	4	4
40,000	-56.5	-58	-2	2	5	-57	-1	3	6	-53	4	7	9	-56	0	3	5	-56	0	4	6	6	6	5	5
30,000	-44.5	-47	-4	-2	-0	-47	-2	1	2	-39	5	8	9	-43	2	5	6	-44	0	4	5	4	4	4	4
20,000	-21.2	-24	-3	1	2	-21	1	3	5	-13	9	11	12	-17	5	7	9	-18	3	6	8	5	4	3	4
10,000	- 4.6	-7	-3	1	3	-4	1	3	5	4	8	11	12	-1	4	6	6	-2	3	6	8	5	4	3	4
BARCELONA TO MADRID																									260 N.MI.
35,000	-56.5	-57	-3	1	3	-57	-1	2	4	-59	-3	-0	1	-61	-4	-2	-1	-59	-3	1	2	5	4	3	3
40,000	-56.5	-58	-2	2	5	-58	-1	2	4	-53	3	6	8	-57	-0	3	4	-56	0	3	5	6	5	4	4
30,000	-44.5	-47	-3	-0	1	-45	-1	2	3	-37	7	10	11	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-22	-0	3	4	-19	3	5	6	-11	11	12	13	-15	6	9	10	-16	5	8	9	4	3	3	3
10,000	- 4.6	-5	-0	3	5	-1	3	6	7	8	12	14	15	1	6	8	9	1	5	9	11	4	4	3	3
BARCELONA TO MOSCOW																									1628 N.MI.
35,000	-56.5	-56	0	4	5	-54	2	5	6	-51	6	8	9	-58	-1	1	3	-55	2	5	6	5	4	3	4
40,000	-56.5	-58	-2	2	3	-56	0	4	6	-51	5	8	10	-56	1	4	5	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-48	-3	-0	1	-40	5	7	9	-44	1	4	5	-46	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	4	-13	8	10	11	-18	3	6	8	-20	1	5	7	5	5	3	5
10,000	- 4.6	-12	-7	-4	-2	-6	-2	1	3	2	7	9	10	-3	1	5	6	-5	-0	3	5	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BARCELONA TO MUNICH																									4892 N.MI.
55,000	-56.5	-54	2	6	8	-51	6	8	10	-48	9	11	12	-54	2	5	6	-52	5	8	10	5	4	4	4
40,000	-56.5	-58	-1	2	4	-52	4	8	10	-49	7	11	13	-53	3	6	8	-53	3	8	10	5	6	5	5
30,000	-44.5	-54	-9	-7	-5	-48	-4	-1	1	-37	7	10	12	-46	-1	2	3	-46	-2	3	6	4	5	5	5
20,000	-21.2	-32	-11	-7	-5	-25	-4	-0	2	-13	8	11	12	-22	-1	3	5	-23	-2	3	6	6	5	4	6
10,000	- 4.6	-18	-13	-9	-7	-10	-6	-2	0	2	7	9	11	-7	-3	1	3	-8	-4	1	3	6	6	4	5
BARCELONA TO NATAL																									3495 N.MI.
55,000	-56.5	-72	-15	-13	-12	-71	-14	-12	-11	-71	-14	-12	-11	-72	-16	-14	-13	-71	-15	-13	-12	3	3	3	3
40,000	-56.5	-55	1	4	5	-55	2	4	6	-53	3	5	6	-54	3	4	5	-54	2	4	5	4	4	2	2
30,000	-44.5	-39	6	7	8	-35	9	11	11	-34	11	12	13	-34	10	12	13	-35	9	11	12	2	2	2	2
20,000	-21.2	-12	9	11	12	-10	11	13	14	-7	14	15	16	-8	13	14	15	-9	12	14	14	2	2	2	2
10,000	- 4.6	5	9	11	12	6	10	12	13	10	15	16	16	8	12	14	14	7	12	13	14	2	2	2	2
BARCELONA TO NICOSIA																									1507 N.MI.
55,000	-56.5	-58	-2	1	3	-57	-1	2	3	-62	-5	-3	-2	-61	-5	-3	-1	-60	-3	-0	1	4	4	3	3
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-49	7	10	11	-56	0	2	4	-55	2	5	7	5	5	3	3
30,000	-44.5	-48	-4	-2	-0	-45	-1	1	3	-35	10	12	13	-41	3	6	7	-42	2	6	8	3	3	3	4
20,000	-21.2	-23	-2	1	2	-19	2	5	6	-9	12	14	15	-15	6	8	9	-16	5	8	10	4	4	3	3
10,000	- 4.6	-7	-2	1	2	-2	3	5	7	7	12	14	15	2	6	8	9	0	5	8	10	4	4	3	3
BARCELONA TO OSLO																									1160 N.MI.
55,000	-56.5	-57	-1	2	4	-54	2	5	7	-51	5	8	9	-58	-1	1	3	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	5	9	10	-56	0	4	5	-55	1	5	8	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	1	-40	4	7	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-23	-1	2	3	-14	7	9	11	-18	3	6	8	-20	1	4	6	6	4	3	5
10,000	- 4.6	-10	-6	-2	-0	-6	-2	1	3	2	7	9	10	-3	2	5	6	-4	0	4	6	5	4	3	4
BARCELONA TO PARIS																									460 N.MI.
55,000	-56.5	-58	-1	2	4	-56	1	4	5	-55	1	4	5	-59	-3	-0	1	-57	-1	2	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	3	5	-53	3	6	8	-56	0	3	5	-56	0	4	6	6	6	4	4
30,000	-44.5	-49	-4	-2	-0	-46	-2	1	2	-39	6	8	9	-42	2	5	6	-44	0	4	6	4	4	3	4
20,000	-21.2	-24	-3	1	2	-20	1	4	5	-12	9	11	12	-16	5	8	9	-18	3	6	8	5	4	3	4
10,000	- 4.6	-7	-2	1	3	-4	1	4	5	4	9	11	12	-1	4	7	8	-2	3	6	8	5	4	3	4
BARCELONA TO ROME																									474 N.MI.
55,000	-56.5	-58	-1	2	4	-57	-0	3	4	-58	-2	1	2	-60	-4	-2	-0	-58	-2	1	3	5	4	3	3
40,000	-56.5	-58	-1	3	5	-58	-1	2	4	-52	5	7	9	-56	0	3	4	-56	1	4	6	6	5	4	4
30,000	-44.5	-48	-4	-1	0	-46	-1	1	3	-37	7	9	11	-42	3	6	7	-43	1	5	8	4	4	3	4
20,000	-21.2	-23	-2	1	3	-19	2	4	6	-11	10	12	13	-15	6	8	9	-17	4	7	9	5	4	3	3
10,000	- 4.6	-6	-2	2	3	-2	2	5	6	7	11	13	15	0	5	7	8	-0	4	8	10	5	4	3	3
BARCELONA TO SANTA MARIA																									1288 N.MI.
55,000	-56.5	-60	-4	-0	1	-58	-2	1	3	-63	-4	-1	0	-62	-5	-3	-2	-60	-4	-0	1	5	4	4	3
40,000	-56.5	-58	-2	2	4	-58	-2	2	4	-53	3	6	7	-56	0	3	4	-57	-0	3	5	6	5	4	4
30,000	-44.5	-46	-2	0	2	-44	0	3	4	-37	8	10	11	-40	4	6	8	-42	3	6	7	3	3	3	4
20,000	-21.2	-20	1	4	5	-18	3	6	7	-10	11	13	14	-14	8	10	11	-15	6	9	10	4	4	3	3
10,000	- 4.6	-3	1	4	6	-1	4	6	7	7	12	14	15	2	7	9	10	1	6	9	11	4	4	3	3
BARCELONA TO VIENNA																									739 N.MI.
55,000	-56.5	-57	-0	3	5	-55	1	4	5	-55	2	4	5	-59	-3	-0	1	-57	-0	3	4	5	4	3	4
40,000	-56.5	-58	-2	2	4	-58	-1	3	4	-53	4	7	8	-56	0	3	4	-56	0	4	4	6	5	4	4
30,000	-44.5	-50	-5	-2	-1	-47	-2	0	2	-39	6	8	10	-42	2	5	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-25	-4	-1	1	-21	1	3	5	-12	9	11	12	-16	5	7	9	-19	3	6	8	5	4	3	4
10,000	- 4.6	-8	-4	-0	1	-4	0	3	4	4	9	11	12	-1	4	6	8	-2	2	6	8	5	4	3	4
BARCELONA TO ZURICH																									462 N.MI.
55,000	-56.5	-57	-1	3	4	-56	1	3	5	-55	1	3	5	-60	-3	-1	1	-57	-1	2	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	2	4	-53	3	6	8	-56	0	3	4	-56	0	4	6	6	6	4	4
30,000	-44.5	-49	-4	-2	-0	-46	-2	1	2	-38	6	8	10	-42	2	5	6	-44	0	4	6	4	4	3	4
20,000	-21.2	-24	-3	0	2	-20	1	3	5	-12	9	11	13	-16	5	8	9	-18	3	6	8	5	4	3	4
10,000	- 4.6	-7	-3	1	2	-4	1	3	5	5	9	12	13	-0	4	7	8	-2	3	6	8	5	4	3	4
BARRANQUILLA TO BERMUDA																									1403 N.MI.
55,000	-56.5	-74	-18	-16	-15	-75	-17	-15	-14	-71	-14	-13	-12	-75	-19	-17	-15	-73	-17	-15	-14	3	3	2	3
40,000	-56.5	-55	2	4	5	-55	1	3	4	-56	0	2	2	-54	2	3	4	-55	1	3	4	3	2	2	2
30,000	-44.5	-37	8	9	10	-35	9	11	11	-34	11	12	12	-33	11	13	13	-35	10	11	12	2	2	2	2
20,000	-21.2	-9	12	13	14	-8	13	14	15	-7	14	15	16	-7	15	16	16	-8	13	15	16	2	2	1	2
10,000	- 4.6	6	11	12	13	6	11	12	13	8	13	14	14	8	13	14	15	7	12	13	14	2	2	1	2
BARRANQUILLA TO BOGOTA																									374 N.MI.
55,000	-56.5	-78	-21	-20	-19	-77	-21	-19	-18	-74	-17	-15	-15	-78	-21	-20	-19	-77	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-52	5	6	7	-55	1	3	4	-54	3	4	4	-54	3	5	6	2	2	2	2
30,000	-44.5	-33	12	13	13	-31	14	15	16	-32	12	13	14	-31	14	15	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-4	17	18	19	-7	14	15	16	-6	16	17	17	-6	16	17	18	2	2	1	1
10,000	- 4.6	9	14	15	16	10	14	16	16	9	14	15	16	10	15	16	16	10	14	15	16	2	2	2	1
BARRANQUILLA TO BRASILIA																									2262 N.MI.
55,000	-56.5	-78	-21	-19	-18	-77	-20	-19	-17	-72	-16	-13	-12	-75	-19	-17	-16	-76	-19	-16	-15	3	3	3	3
40,000	-56.5	-54	3	5	6	-52	5	7	8	-54	3	4	5	-54	3	4	5	-53	3	6	7	3	3	2	2
30,000	-44.5	-32	12	14	14	-30	14	16	17	-32	12	14	15	-30	14	15	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	17	18	19	-4	17	18	19	-8	13	14	15	-6	16	17	17	-6	16	17	18	2	2	2	2
10,000	- 4.6	10	14	16	16	10	15	16	17	8	13	14	15	10	15	16	17	10	14	15	16	2	2	2	2
BARRANQUILLA TO CARACAS																									460 N.MI.
55,000	-56.5	-78	-21	-20	-19	-78	-21	-19	-18	-73	-17	-15	-14	-78	-21	-19	-18	-77	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-52	4	6	7	-55	1	3	3	-54	3	4	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-33	11	13	13	-31	14	15	15	-33	12	13	13	-31	13	14	15	-32	12	14	15	2	2	2	1
20,000	-21.2	-6	15	16	17	-5	16	17	18	-7	14	15	16	-6	16	17	17	-6	15	17	17	2	2	1	1
10,000	- 4.6	9	13	15	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	16	2	2	1	1
BARRANQUILLA TO CARTAGENA																									50 N.MI.
55,000	-56.5	-78	-21	-19	-19	-77	-21	-19	-18	-73	-17	-15	-15	-78	-21	-19	-10	-77	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-52	5	6	7	-55	1	3	3	-54	3	4	4	-54	3	5	5	2	2	2	2
30,000	-44.5	-33	11	12	13	-31	13	15	15	-33	12	13	13	-31	13	14	15	-32	12	14	14	2	2	2	1
20,000	-21.2	-6	15	16	17	-5	16	17	18	-7	14	15	16	-6	16	17	17	-6	15	17	17	2	2	1	1
10,000	- 4.6	9	13	15	15	9	14	15	16	9	14	15	15	10	15	15	16	9	14	15	16	2	2	1	1

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BARRANQUILLA TO GUATEMALA CITY																									947 N.MI.
55,000	-56.5	-77	-21	-19	-18	-77	-20	-18	-18	-74	-17	-16	-15	-78	-22	-20	-19	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-55	4	5	6	-56	1	2	3	-54	3	4	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-34	11	12	12	-32	12	14	14	-33	12	13	13	-32	13	14	15	-33	12	13	14	2	2	2	1
20,000	-21.2	-6	15	16	17	-5	16	17	18	-7	15	15	16	-6	16	17	17	-6	15	17	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	14	15	16	9	14	15	15	10	15	16	16	9	14	15	15	2	2	1	1
BARRANQUILLA TO HAVANA																									848 N.MI.
55,000	-56.5	-77	-20	-18	-16	-76	-19	-17	-17	-73	-16	-15	-14	-77	-21	-19	-18	-76	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	2	4	5	-55	3	5	5	-56	1	2	2	-54	3	4	4	-54	2	4	4	2	2	2	2
30,000	-44.5	-35	10	11	12	-33	11	12	13	-33	12	12	13	-32	13	14	14	-33	11	13	13	2	2	1	2
20,000	-21.2	-7	14	15	16	-6	15	16	17	-7	15	15	16	-6	15	16	17	-7	15	16	16	2	2	1	1
10,000	- 4.6	8	12	14	14	8	13	14	15	9	14	14	15	9	14	15	15	9	13	14	15	2	2	1	1
BARRANQUILLA TO KINGSTON																									438 N.MI.
55,000	-56.5	-77	-21	-19	-18	-77	-20	-19	-18	-73	-16	-15	-14	-77	-21	-19	-18	-76	-20	-18	-16	3	3	2	3
40,000	-56.5	-54	3	4	5	-55	4	5	6	-56	1	2	3	-54	3	4	4	-54	2	4	5	3	2	2	2
30,000	-44.5	-34	10	12	12	-32	12	13	14	-33	11	12	13	-32	13	14	14	-33	12	13	14	2	2	1	1
20,000	-21.2	-7	14	16	16	-6	15	17	17	-7	14	15	16	-6	16	16	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	13	15	15	9	14	15	15	10	14	15	16	9	13	15	15	2	2	1	1
BARRANQUILLA TO LIMA																									1386 N.MI.
55,000	-56.5	-76	-21	-20	-19	-77	-21	-19	-18	-73	-17	-15	-14	-76	-20	-18	-17	-76	-20	-17	-16	3	3	3	3
40,000	-56.5	-54	3	5	6	-52	5	7	8	-54	2	4	5	-54	2	4	4	-53	3	5	6	3	3	2	2
30,000	-44.5	-32	12	14	14	-30	14	15	16	-32	12	14	14	-31	14	15	15	-31	13	15	15	2	2	2	2
20,000	-21.2	-5	17	18	18	-4	17	18	19	-7	14	15	15	-6	16	17	17	-6	16	17	18	2	2	1	1
10,000	- 4.6	10	14	15	16	10	14	15	16	9	13	15	15	10	15	16	16	9	14	15	16	2	2	2	2
BARRANQUILLA TO MARACAIBO																									185 N.MI.
55,000	-56.5	-78	-21	-19	-19	-77	-21	-19	-18	-73	-17	-15	-14	-78	-21	-19	-18	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-52	5	6	7	-55	1	3	3	-54	3	4	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-33	11	13	13	-31	13	15	15	-33	12	13	13	-31	13	14	15	-32	12	14	15	2	2	2	1
20,000	-21.2	-6	15	16	17	-5	16	17	18	-7	14	15	16	-6	16	17	17	-6	15	17	17	2	2	1	1
10,000	- 4.6	9	13	15	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	16	2	2	1	1
BARRANQUILLA TO MEXICO CITY																									1695 N.MI.
55,000	-56.5	-77	-21	-19	-18	-76	-20	-18	-17	-74	-17	-16	-15	-78	-22	-20	-19	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	2	4	5	-54	3	4	5	-56	1	2	2	-54	3	4	4	-54	2	4	4	2	2	2	2
30,000	-44.5	-35	10	11	12	-33	11	12	13	-33	12	13	13	-32	13	14	14	-33	11	13	13	2	2	1	2
20,000	-21.2	-7	14	15	16	-6	15	17	17	-7	15	15	16	-6	15	16	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	14	15	16	9	14	15	15	10	15	16	16	9	14	15	16	2	2	1	1
BARRANQUILLA TO MIAMI																									967 N.MI.
55,000	-56.5	-76	-20	-18	-17	-75	-19	-17	-16	-72	-16	-14	-14	-77	-20	-18	-17	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	2	4	4	-54	3	4	5	-56	0	2	2	-54	2	4	4	-55	2	3	4	2	2	2	2
30,000	-44.5	-35	9	10	11	-34	11	12	13	-33	11	12	13	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	13	15	16	-7	14	16	16	-7	14	15	16	-5	15	16	17	-7	14	16	16	2	2	1	1
10,000	- 4.6	7	12	13	14	8	12	14	15	9	14	14	15	9	14	15	15	8	13	14	15	2	2	1	1
BARRANQUILLA TO NEW ORLEANS																									1619 N.MI.
55,000	-56.5	-75	-19	-17	-16	-74	-17	-15	-15	-72	-16	-14	-14	-77	-20	-18	-17	-74	-18	-16	-15	3	3	2	3
40,000	-56.5	-55	1	3	4	-54	2	4	5	-56	0	2	2	-54	2	3	4	-55	2	3	4	2	2	2	2
30,000	-44.5	-36	6	10	10	-35	10	11	12	-33	12	13	13	-33	12	13	14	-34	10	12	13	2	2	1	2
20,000	-21.2	-9	13	14	15	-8	14	15	16	-7	15	15	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	- 4.6	7	11	13	14	8	12	14	15	9	14	14	15	9	14	15	15	8	13	14	14	2	2	1	2
BARRANQUILLA TO NEW YORK																									1785 N.MI.
55,000	-56.5	-72	-15	-13	-12	-70	-14	-12	-11	-69	-13	-11	-10	-73	-17	-14	-13	-71	-15	-13	-12	3	3	2	3
40,000	-56.5	-56	1	3	4	-56	1	3	4	-56	1	2	2	-55	2	4	4	-56	1	3	4	3	3	2	2
30,000	-44.5	-39	6	8	8	-37	7	9	10	-34	11	12	13	-34	10	12	12	-35	8	10	11	3	2	2	2
20,000	-21.2	-11	10	12	13	-10	11	13	14	-7	14	15	16	-5	13	15	16	-9	12	13	14	3	3	2	2
10,000	- 4.6	3	6	10	11	4	9	11	12	8	13	14	14	7	12	13	14	6	10	12	13	3	3	1	2
BARRANQUILLA TO PANAMA CITY																									293 N.MI.
55,000	-56.5	-78	-21	-19	-19	-77	-21	-19	-18	-74	-17	-16	-15	-78	-21	-19	-18	-77	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-52	5	6	7	-55	1	3	3	-54	3	4	4	-54	3	5	6	2	2	2	2
30,000	-44.5	-33	11	13	13	-31	13	15	15	-33	12	13	13	-31	13	14	15	-32	12	[illegible]	15	2	2	2	1
20,000	-21.2	-6	15	17	17	-5	16	18	18	-7	14	15	16	-6	16	17	17	-6	15	17	17	2	2	1	1
10,000	- 4.6	9	13	15	15	9	14	15	16	9	14	15	16	10	15	16	16	9	14	15	16	2	2	1	1
BARRANQUILLA TO QUITO																									698 N.MI.
55,000	-56.5	-78	-22	-20	-19	-77	-21	-19	-18	-74	-17	-16	-15	-78	-21	-19	-19	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	6	7	-55	2	3	4	-54	2	4	4	-54	3	5	6	2	2	2	2
30,000	-44.5	-32	12	13	14	-30	14	15	16	-32	12	13	14	-31	14	15	15	-31	13	14	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-4	17	18	19	-7	14	15	16	-6	16	17	17	-5	16	17	18	2	2	1	1
10,000	- 4.6	9	14	15	16	10	14	16	16	9	14	15	16	10	15	16	16	10	14	15	16	2	2	2	1
BARRANQUILLA TO SAN JUAN																									681 N.MI.
55,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-18	-73	-16	-15	-14	-77	-21	-19	-18	-76	-20	-17	-16	3	3	2	3
40,000	-56.5	-54	3	4	5	-55	3	5	5	-56	1	2	3	-54	3	4	4	-54	2	4	5	3	2	2	2
30,000	-44.5	-34	10	12	12	-32	12	13	14	-33	11	12	13	-32	13	14	14	-33	12	13	14	2	2	1	1
20,000	-21.2	-7	14	16	16	-6	15	16	17	-7	14	15	16	-6	16	16	17	-6	15	16	16	2	2	1	1
10,000	- 4.6	8	13	14	15	9	13	14	15	9	14	15	15	9	14	15	15	9	13	14	15	2	2	1	1
BARRANQUILLA TO SANTA MARIA																									44 N.MI.
55,000	-56.5	-76	-21	-19	-18	-77	-21	-19	-18	-73	-17	-15	-14	-78	-21	-19	-18	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-52	5	6	7	-55	1	2	3	-54	3	4	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-33	11	12	13	-31	13	15	15	-33	12	13	13	-31	13	14	15	-32	12	14	14	2	2	2	1
20,000	-21.2	-6	15	16	17	-5	16	17	18	-7	14	15	16	-6	16	17	17	-6	15	17	17	2	2	1	1
10,000	- 4.6	9	13	15	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	15	2	2	1	1
BASLE TO COPENHAGEN																									518 N.MI.
55,000	-56.5	-56	0	3	5	-54	3	5	7	-50	7	9	10	-57	-1	2	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	5	7	-51	5	9	11	-56	0	3	5	-55	1	5	8	6	6	5	5
30,000	-44.5	-51	-7	-4	-2	-48	-4	-1	0	-41	4	6	8	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-14	7	9	10	-19	3	6	8	-21	0	4	6	6	4	3	5
10,000	- 4.6	-12	-7	-3	-1	-7	-2	1	2	1	6	8	9	-4	1	4	6	-5	-1	3	5	6	4	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BASLE TO DUSSELDORF																									224 N.MI.
55,000	-56.5	-56	0	3	5	-54	2	5	6	-51	5	8	9	-58	-2	1	2	-55	2	5	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	0	4	6	-52	5	8	10	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	1	-40	4	7	8	-44	1	4	5	-45	-1	3	4	4	4	4	4
20,000	-21.2	-27	-5	-2	1	-22	-1	2	4	-14	8	10	11	-18	3	7	8	-20	1	5	7	6	4	3	5
10,000	- 4.6	-10	-6	-2	-0	-6	-1	2	3	2	7	9	10	-2	2	5	7	-4	0	4	6	6	4	3	4
BASLE TO FRANKFURT																									155 N.MI.
55,000	-56.5	-56	0	4	5	-54	2	5	6	-52	5	7	9	-58	-2	1	2	-55	1	5	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-0	4	6	-52	5	8	9	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-0	1	-40	5	7	8	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-22	-1	2	4	-13	8	10	11	-18	4	7	8	-20	1	5	7	6	4	3	5
10,000	- 4.6	-10	-6	-2	-0	-6	-1	2	3	2	7	9	10	-2	3	6	7	-4	1	4	6	6	4	3	4
BASLE TO GENEVA																									100 N.MI.
55,000	-56.5	-57	-0	3	5	-55	2	4	6	-53	3	6	7	-59	-2	0	2	-56	1	4	5	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-53	4	7	8	-56	0	3	5	-56	0	4	6	6	6	5	4
30,000	-44.5	-50	-5	-3	-1	-47	-3	0	2	-39	5	8	9	-43	2	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-21	-0	3	4	-13	8	11	12	-17	4	7	9	-19	2	6	7	5	4	3	4
10,000	- 4.6	-9	-4	-1	1	-5	-1	2	4	3	8	10	11	-1	3	6	8	-3	2	5	7	5	4	3	4
BASLE TO GLASGOW																									660 N.MI.
55,000	-56.5	-57	-1	3	4	-54	3	6	7	-50	6	9	10	-58	-1	2	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	5	-55	1	6	8	-51	6	9	11	-56	0	4	6	-55	1	6	8	6	7	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-0	1	-41	4	6	8	-44	0	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-23	-2	2	3	-15	7	9	10	-19	3	6	8	-21	1	4	6	6	5	3	5
10,000	- 4.6	-10	-5	-2	0	-7	-2	1	3	1	6	8	9	-3	2	5	7	-5	0	3	5	5	4	3	5
BASLE TO HAMBURG																									375 N.MI.
55,000	-56.5	-56	0	3	5	-54	3	5	7	-50	6	8	10	-58	-1	1	3	-55	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	5	8	10	-56	0	3	5	-55	1	5	7	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-4	-1	1	-40	4	7	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-23	-1	2	3	-14	7	9	11	-18	3	6	8	-21	1	4	6	6	4	3	5
10,000	- 4.6	-11	-7	-3	-1	-7	-2	1	3	2	6	8	10	-3	1	5	6	-5	-0	3	5	4	4	3	5
BASLE TO LISBON																									898 N.MI.
55,000	-56.5	-58	-2	1	3	-56	0	3	4	-57	-0	2	4	-60	-4	-1	0	-58	-1	2	3	5	4	4	4
40,000	-56.5	-58	-2	2	4	-53	-1	2	4	-53	3	6	7	-56	0	3	4	-57	-0	4	5	6	6	4	4
30,000	-44.5	-48	-4	-1	0	-46	-1	1	3	-38	7	9	10	-42	3	5	7	-43	1	4	6	4	4	3	4
20,000	-21.2	-23	-2	2	3	-20	2	4	6	-12	10	12	13	-15	6	8	10	-17	4	7	9	5	4	3	4
10,000	- 4.6	-6	-1	2	4	-3	2	4	6	6	10	12	13	0	5	7	9	-1	4	7	9	5	4	3	4
BASLE TO LONDON																									388 N.MI.
55,000	-56.5	-57	-0	1	5	-54	2	5	6	-51	5	8	9	-58	-2	1	3	-55	1	5	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	0	5	7	-52	5	8	10	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-6	-1	-1	-47	-3	-0	1	-40	4	7	8	-44	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-14	7	10	11	-18	3	7	8	-20	1	5	7	6	5	3	5
10,000	- 4.6	-9	-5	-1	1	-6	-1	2	3	2	7	9	10	-2	3	6	7	-4	1	4	6	5	4	3	4
BASLE TO MADRID																									640 N.MI.
55,000	-56.5	-58	-1	2	4	-56	0	3	5	-56	1	3	4	-60	-3	-1	0	-57	-1	2	3	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	2	4	-53	3	6	8	-56	0	3	4	-56	0	4	5	6	6	4	4
30,000	-44.5	-48	-4	-1	-0	-46	-2	1	2	-38	6	9	10	-42	2	5	7	-44	1	4	6	4	4	3	4
20,000	-21.2	-24	-2	1	3	-20	1	4	5	-12	9	12	13	-16	5	8	9	-18	3	7	8	5	4	3	4
10,000	- 4.6	-7	-2	1	3	-3	1	4	5	5	10	12	13	-0	4	7	8	-1	3	7	9	5	4	3	4
BASLE TO MUNICH																									171 N.MI.
55,000	-56.5	-56	0	4	6	-54	2	5	6	-52	4	7	8	-58	-2	1	2	-55	1	4	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-0	3	5	-52	4	7	9	-56	0	3	5	-56	1	4	6	6	6	5	4
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-40	5	7	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-5	-2	0	-22	-1	2	4	-13	8	10	11	-17	4	7	8	-20	2	5	7	5	4	3	4
10,000	- 4.6	-10	-6	-2	0	-6	-1	2	3	3	7	10	11	-2	3	6	7	-4	1	4	6	5	4	3	4
BASLE TO OSLO																									[illegible] N.MI.
55,000	-56.5	-57	-1	3	4	-53	3	6	7	-49	8	10	11	-57	-1	2	3	-54	2	6	7	5	4	3	4
40,000	-56.5	-59	-2	2	4	-55	2	6	8	-50	6	10	12	-56	0	4	6	-55	2	6	8	6	6	5	5
30,000	-44.5	-51	-7	-4	-3	-49	-4	-2	-0	-41	3	6	7	-45	-0	2	4	-47	-2	1	3	4	4	4	4
20,000	-21.2	-29	-7	-3	-1	-24	-3	1	2	-15	6	9	10	-19	2	5	7	-22	-0	3	5	6	5	3	5
10,000	- 4.6	-12	-8	-4	-2	-8	-3	-0	2	1	5	7	9	-5	0	3	5	-6	-1	2	4	6	5	3	5
BASLE TO PARIS																									219 N.MI.
55,000	-56.5	-57	-0	3	5	-55	2	5	6	-52	4	7	8	-58	-2	1	2	-55	1	4	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-0	4	6	-52	4	7	9	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-5	-3	-1	-47	-3	-0	1	-40	5	7	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-4	-1	1	-22	-0	3	4	-13	8	10	11	-17	4	7	8	-19	2	5	7	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-5	-1	2	4	3	7	9	11	-2	1	6	7	-3	1	5	7	5	4	3	4
BASLE TO PRAGUE																									306 N.MI.
55,000	-56.5	-56	1	4	6	-54	2	5	6	-51	5	7	9	-58	-2	1	2	-55	2	5	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	0	4	6	-52	5	8	9	-56	0	3	5	-56	1	5	7	5	6	5	4
30,000	-44.5	-51	-6	-4	-2	-46	-3	-1	1	-40	5	7	8	-43	1	4	5	-45	-1	3	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-22	-1	2	4	-13	8	10	11	-18	4	7	8	-20	1	5	7	6	4	3	5
10,000	- 4.6	-11	-6	-3	-1	-6	-2	1	3	2	7	9	10	-2	2	5	7	-4	0	4	6	6	4	3	5
BASLE TO ROME																									409 N.MI.
55,000	-56.5	-56	0	4	5	-55	1	4	5	-55	2	4	5	-59	-3	-0	1	-56	0	3	4	5	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	4	-52	4	7	8	-56	0	3	4	-56	0	4	6	5	5	4	4
30,000	-44.5	-50	-5	-3	-1	-47	-2	0	2	-39	6	8	10	-42	2	5	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-4	-1	1	-21	1	3	5	-12	9	11	12	-16	5	7	9	-19	3	6	8	5	4	3	4
10,000	- 4.6	-8	-4	-0	1	-5	-0	3	4	4	9	11	12	-1	4	6	8	-2	2	6	8	5	4	3	4
BASLE TO SHANNON																									701 N.MI.
55,000	-56.5	-57	-1	3	4	-54	2	5	7	-51	5	8	9	-58	-1	1	3	-55	1	5	7	5	4	4	4
40,000	-56.5	-58	-2	3	5	-56	1	5	8	-51	5	9	10	-56	0	4	6	-55	1	5	8	6	7	5	5
30,000	-44.5	-50	-5	-3	-1	-47	-3	-0	1	-40	4	7	8	-44	1	3	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-25	-4	-0	2	-22	-1	2	4	-14	7	9	11	-18	3	6	8	-20	1	5	7	6	5	3	5
10,000	- 4.6	-9	-4	-1	1	-6	-1	2	3	2	6	8	10	-2	3	5	7	-4	1	4	6	5	4	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT C[illegible]CLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BASLE TO STOCKHOLM																						811 N.MI.			
55,000	-56.5	-57	-0	3	5	-53	3	6	7	-49	8	10	11	-57	-0	2	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	2	4	-55	2	6	8	-51	6	9	11	-56	0	4	6	-55	2	6	8	5	6	5	5
30,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-0	-41	3	6	7	-45	-0	2	4	-47	-2	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-1	-24	-3	0	2	-15	6	9	10	-19	2	5	7	-22	-1	3	5	6	5	3	5
10,000	- 4.6	-13	-9	-5	-2	-8	-3	-0	1	1	5	7	9	-5	-0	3	5	-6	-2	2	4	6	5	3	5
BASLE TO VIENNA																						565 N.MI.			
55,000	-56.5	-56	1	4	6	-54	2	5	6	-52	5	7	8	-58	-2	1	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-0	3	5	-52	5	8	9	-56	0	3	5	-56	1	5	7	5	5	5	4
10,000	-44.5	-51	-6	-4	-2	-48	-3	-0	1	-40	5	7	9	-45	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-22	-1	2	4	-13	8	10	11	-37	4	7	8	-20	1	5	7	5	4	3	4
10,000	- 4.6	-11	-6	-3	-1	-6	-1	2	3	3	7	9	11	-2	3	6	7	-4	1	4	6	5	4	3	4
BASLE TO ZURICH																						42 N.MI.			
55,000	-56.5	-56	0	4	5	-55	2	5	6	-53	4	6	8	-59	-2	1	2	-55	1	4	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-53	4	7	9	-56	0	3	5	-56	0	4	6	6	6	5	4
30,000	-44.5	-50	-6	-3	-1	-47	-3	-0	1	-40	5	7	9	-43	1	4	6	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-23	-0	2	4	-13	8	10	12	-17	4	7	9	-19	2	5	7	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-1	2	3	3	8	10	11	-2	3	6	8	-3	1	5	7	5	4	3	4
BASRA TO BEIRUT																						654 N.MI.			
55,000	-56.5	-64	-7	-5	-4	-62	-6	-4	-3	-71	-14	-12	-11	-66	-10	-7	-6	-66	-9	-6	-5	4	3	3	4
40,000	-56.5	-54	2	5	6	-55	2	5	7	-46	10	12	13	-55	1	3	4	-53	4	7	9	4	5	3	3
30,000	-44.5	-45	-1	2	3	-42	3	5	6	-27	18	20	21	-38	6	8	9	-38	7	11	13	3	3	3	3
20,000	-21.2	-19	2	4	6	-16	6	8	9	-3	18	20	21	-12	9	11	12	-12	9	13	55	3	3	3	3
10,000	- 4.6	-3	1	4	5	2	7	9	10	14	19	20	21	6	11	13	14	5	9	13	15	4	4	2	3
BASRA TO BENGHAZI																						1609 N.MI.			
55,000	-56.5	-64	-8	-5	-4	-62	-6	-4	-3	-70	-14	-12	-11	-66	-10	-7	-6	-66	-9	-7	-5	3	3	3	3
40,000	-56.5	-54	2	5	6	-55	1	4	6	-47	10	12	13	-55	1	3	4	-53	4	7	8	4	5	3	3
30,000	-44.5	-45	-1	1	3	-41	3	5	6	-27	17	19	20	-38	6	8	9	-38	6	10	13	3	3	3	3
20,000	-21.2	-19	2	5	6	-15	6	8	9	-4	17	19	20	-12	9	11	12	-12	9	12	14	3	3	3	2
10,000	- 4.6	-3	2	4	5	2	6	9	10	13	17	19	20	6	11	12	13	4	9	12	14	3	3	2	3
BASRA TO BOMBAY																						1525 N.MI.			
55,000	-56.5	-71	-14	-12	-11	-71	-14	-12	-10	-74	-17	-15	-14	-73	-17	-14	-13	-72	-16	-13	-11	4	4	4	4
40,000	-56.5	-54	2	5	7	-55	4	7	7	-47	9	12	13	-56	3	5	7	-52	5	8	10	4	4	4	4
30,000	-44.5	-38	6	9	11	-36	9	11	13	-26	18	20	21	-34	11	13	14	-33	11	14	16	4	4	3	3
20,000	-21.2	-13	8	10	11	-7	12	14	15	-3	19	20	21	-4	14	15	16	-8	13	16	18	3	3	3	3
10,000	- 4.6	3	8	10	11	9	13	15	16	15	20	22	22	8	13	14	15	9	13	16	18	3	3	2	3
BASRA TO CAIRO																						868 N.MI.			
55,000	-56.5	-66	-9	-7	-6	-64	-8	-5	-4	-72	-15	-13	-12	-65	-11	-9	-8	-67	-11	-8	-7	3	3	3	3
40,000	-56.5	-54	2	5	6	-55	2	5	7	-46	10	12	13	-55	2	4	5	-52	4	7	9	4	4	3	3
30,000	-44.5	-44	0	3	4	-40	4	5	7	-26	19	20	21	-37	7	9	10	-37	8	12	14	3	3	3	3
20,000	-21.2	-14	4	6	7	-13	7	9	10	-2	19	21	22	-11	10	12	13	-11	10	13	15	3	3	3	2
10,000	- 4.6	-2	3	5	6	3	7	10	11	15	19	21	21	7	11	13	14	6	10	14	15	3	3	2	2
BASRA TO CALCUTTA																						2220 N.MI.			
55,000	-56.5	-69	-13	-10	-9	-67	-11	-8	-6	-73	-17	-14	-12	-71	-14	-12	-10	-70	-14	-10	-9	4	4	4	4
40,000	-56.5	-54	2	5	7	-53	3	6	8	-48	9	12	14	-54	2	5	7	-52	4	8	10	5	5	4	4
30,000	-44.5	-39	5	8	10	-37	7	10	12	-26	18	21	22	-34	10	13	14	-34	10	14	16	5	4	3	4
20,000	-21.2	-15	7	9	10	-11	11	13	14	-2	19	21	22	-8	13	15	16	-9	12	16	17	3	4	3	3
10,000	- 4.6	2	6	8	10	8	12	14	15	15	20	21	22	7	12	14	15	8	12	15	17	3	3	2	3
BASRA TO COLOMBO																						2299 N.MI.			
55,000	-56.5	-75	-18	-16	-15	-74	-18	-15	-14	-76	-19	-17	-15	-77	-20	-18	-17	-75	-19	-16	-15	3	4	4	3
40,000	-56.5	-55	2	4	6	-52	4	7	8	-49	8	10	11	-54	3	5	6	-52	4	7	8	4	4	3	3
30,000	-44.5	-35	10	12	13	-33	11	13	15	-27	17	19	20	-33	12	14	15	-32	12	15	17	3	3	3	3
20,000	-21.2	-10	11	13	14	-8	14	15	16	-4	18	19	20	-7	15	16	17	-7	14	17	18	2	3	2	2
10,000	- 4.6	6	11	12	13	9	14	15	16	13	18	19	20	9	13	15	15	9	14	16	17	2	2	2	2
BASRA TO DAMASCUS																						613 N.MI.			
55,000	-56.5	-64	-8	-5	-4	-63	-6	-4	-3	-71	-14	-12	-11	-66	-10	-7	-6	-66	-9	-7	-5	4	3	3	4
40,000	-56.5	-54	2	5	6	-55	2	5	7	-46	11	12	13	-55	1	3	5	-53	4	7	9	4	5	3	3
30,000	-44.5	-45	-1	2	3	-41	3	5	6	-26	18	20	21	-38	6	8	9	-38	7	11	13	3	3	3	3
20,000	-21.2	-19	2	4	6	-15	6	8	9	-3	18	20	21	-12	10	11	12	-12	9	13	15	3	3	3	3
10,000	- 4.6	-3	2	4	5	2	7	9	11	14	19	20	21	6	11	13	14	5	10	13	15	4	4	2	3
BASRA TO DHAHRAN																						286 N.MI.			
55,000	-56.5	-68	-11	-9	-8	-67	-11	-8	-7	-73	-16	-14	-13	-70	-14	-11	-10	-69	-13	-10	-9	4	3	3	4
40,000	-56.5	-54	3	5	7	-53	3	6	8	-47	10	12	13	-54	2	4	6	-52	5	8	9	4	4	3	3
30,000	-44.5	-41	3	6	7	-38	7	9	10	-26	19	21	21	-35	9	11	12	-35	9	13	15	4	3	3	3
20,000	-21.2	-16	6	8	9	-12	9	11	12	-2	19	21	22	-9	12	14	15	-10	11	15	17	3	3	3	2
10,000	- 4.6	0	5	7	9	6	10	12	13	16	21	22	23	8	12	14	15	8	12	15	17	3	3	2	3
BASRA TO ISTANBUL																						1111 N.MI.			
55,000	-56.5	-60	-4	-1	0	-59	-3	-1	1	-67	-10	-8	-7	-63	-7	-4	-3	-62	-6	-3	-2	4	3	3	4
40,000	-56.5	-55	1	4	5	-55	1	5	6	-46	10	12	13	-56	1	3	4	-53	3	7	9	4	5	3	3
30,000	-44.5	-48	-3	-1	0	-44	1	3	4	-29	15	17	18	-40	4	7	8	-40	4	9	11	3	3	3	3
20,000	-21.2	-22	-1	2	3	-18	4	6	7	-5	16	18	19	-14	8	10	11	-15	7	10	13	4	4	3	3
10,000	- 4.6	-6	-2	1	3	0	5	7	9	11	15	17	18	4	9	11	12	2	7	10	12	4	4	3	3
BASRA TO KARACHI																						1082 N.MI.			
55,000	-56.5	-69	-12	-10	-8	-68	-11	-9	-7	-73	-16	-14	-12	-71	-14	-12	-10	-70	-14	-11	-9	4	4	4	4
40,000	-56.5	-54	3	5	7	-53	4	7	8	-47	10	12	14	-54	2	5	6	-52	5	8	10	4	5	4	4
30,000	-44.5	-40	5	7	9	-37	7	10	11	-26	19	21	22	-35	10	12	13	-34	10	14	16	4	4	3	3
20,000	-21.2	-15	6	8	9	-11	11	13	14	-2	19	21	22	-9	12	14	15	-9	12	15	17	3	3	3	3
10,000	- 4.6	1	6	8	9	8	12	14	15	16	21	22	23	8	12	14	15	8	13	16	18	3	3	2	3
BASRA TO LISBON																						2806 N.MI.			
55,000	-56.5	-60	-3	-1	1	-59	-2	0	1	-64	-8	-6	-5	-63	-6	-4	-3	-61	-5	-2	-0	4	4	3	3
40,000	-56.5	-56	0	3	5	-57	-0	3	5	-49	8	10	11	-56	0	3	4	-54	2	5	7	5	5	3	3
30,000	-44.5	-47	-3	-1	1	-44	0	2	4	-33	12	14	15	-40	4	6	8	-41	3	7	9	3	3	3	3
20,000	-21.2	-21	-0	2	4	-18	3	6	7	-8	14	15	16	-14	7	9	10	-15	6	9	11	4	3	3	3
10,000	- 4.6	-5	-1	2	4	-0	4	7	8	9	14	16	17	3	7	10	11	2	6	10	11	4	4	3	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	JANUARY D*50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
BASRA TO MADRID																						2540 N.MI.			
53,000	-56.5	-60	-3	-0	1	-59	-2	0	2	-64	-8	-5	-4	-62	-6	-4	-2	-61	-5	-2	-0	4	4	3	3
40,000	-56.5	-56	0	4	5	-57	-0	3	5	-49	8	10	11	-56	0	3	4	-54	2	5	7	5	5	3	3
30,000	-44.5	-48	-3	-1	0	-45	-0	2	4	-35	12	14	15	-41	4	6	8	-41	3	7	9	3	3	3	3
20,000	-21.2	-22	-1	2	3	-18	3	5	7	-8	14	15	16	-14	7	9	10	-15	6	9	11	4	4	3	3
10,000	- 4.6	-6	-1	2	3	-1	4	6	8	9	14	16	17	3	7	9	11	1	6	9	11	4	4	3	3
BASRA TO MILAN																						2028 N.MI.			
53,000	-56.5	-59	-2	1	2	-58	-1	1	2	-62	-6	-3	-2	-62	-5	-3	-1	-60	-3	-1	1	4	3	3	4
40,000	-56.5	-56	0	3	5	-56	0	4	6	-48	8	11	12	-56	0	3	4	-54	2	6	8	5	5	3	3
30,000	-44.5	-49	-4	-2	-1	-45	-1	2	3	-35	12	14	15	-41	3	6	7	-42	3	7	9	4	3	3	3
20,000	-21.2	-24	-2	0	2	-19	2	5	6	-8	13	15	16	-15	6	9	10	-16	5	9	11	4	4	3	3
10,000	- 4.6	-8	-3	-0	1	-2	3	5	7	8	13	14	15	2	7	9	10	0	5	8	10	4	4	3	3
BASRA TO NEW DELHI																						1531 N.MI.			
53,000	-56.5	-67	-10	-8	-6	-65	-9	-6	-5	-72	-15	-12	-11	-69	-12	-9	-8	-68	-12	-8	-7	4	4	4	4
40,000	-56.5	-54	3	6	7	-54	3	6	8	-47	10	12	14	-54	2	5	7	-52	4	8	10	5	5	4	4
30,000	-44.5	-41	3	6	8	-39	6	8	10	-26	18	21	22	-36	9	12	13	-35	9	13	15	5	4	3	4
20,000	-21.2	-17	4	7	8	-12	9	12	13	-2	19	21	22	-10	11	13	15	-10	11	15	17	4	4	3	3
10,000	- 4.6	-1	4	6	8	6	11	13	14	16	20	22	23	7	12	13	15	7	12	15	17	4	3	2	3
BASRA TO ROME																						1817 N.MI.			
53,000	-56.5	-60	-3	-0	1	-59	-2	0	1	-65	-8	-6	-5	-63	-6	-4	-2	-61	-5	-2	-1	4	3	3	4
40,000	-56.5	-56	1	4	5	-56	0	4	6	-47	9	11	12	-56	0	3	4	-54	3	A	8	4	5	3	3
30,000	-44.5	-48	-4	-1	-0	-44	0	2	4	-31	13	15	16	-40	4	6	7	-41	3	7	10	3	3	3	3
20,000	-21.2	-22	-1	1	3	-18	3	5	7	-7	14	16	17	-14	7	9	10	-15	6	9	11	4	4	3	3
10,000	- 4.6	-7	-2	1	2	-1	4	6	8	9	14	16	17	3	8	10	11	1	6	9	11	4	4	3	3
BASRA TO TEHERAN																						355 N.MI.			
53,000	-56.5	-63	-7	-4	-3	-62	-6	[illegible]	-2	-70	-14	-11	-10	-65	-9	-6	-5	-65	-9	-6	-4	4	3	3	4
40,000	-56.5	-55	2	5	6	-54	2	A	7	-46	11	13	14	-55	2	4	5	-52	4	8	9	4	5	3	3
30,000	-44.5	-45	-0	2	4	-41	4	6	7	-26	18	20	21	-38	6	8	9	-38	7	11	13	4	4	3	3
20,000	-21.2	-20	1	4	5	-15	6	8	9	-2	19	21	22	-12	9	11	12	-12	9	13	15	4	3	3	3
10,000	- 4.6	-4	1	4	5	3	7	10	11	15	20	21	22	6	10	13	14	5	10	13	15	4	3	3	3
BASRA TO TEL AVIV-JAFFA																						666 N.MI.			
53,000	-56.5	-A5	-8	-A	-5	-A3	-7	-5	-4	-71	-15	-13	-12	-67	-10	-8	-7	-67	-10	-7	-6	4	3	3	4
40,000	-55.5	-54	2	5	6	-55	2	5	7	-46	10	12	13	-55	2	4	5	-52	4	7	9	4	5	3	3
30,000	-44.5	-45	-0	2	3	-41	4	6	7	-26	18	20	21	-38	7	9	10	-37	7	11	13	3	3	3	3
20,000	-21.2	-18	3	5	6	-15	6	8	9	-3	19	21	22	-11	10	12	12	-12	9	13	15	3	3	3	2
10,000	- 4.6	-2	2	5	6	3	7	10	11	15	19	21	21	7	11	13	14	5	10	13	15	3	3	2	3
BASRA TO TRIPOLI																						1766 N.MI.			
53,000	-56.5	-64	-7	-5	-4	-62	-5	-3	-2	-70	-13	-11	-10	-66	-9	-7	-6	-65	-9	-6	-4	3	3	3	3
40,000	-56.5	-55	2	5	6	-56	1	4	A	-47	10	11	12	-55	1	3	4	-53	3	6	8	4	5	3	3
30,000	-44.5	-46	-1	1	2	-42	3	5	A	-29	1A	18	19	-39	A	8	9	-39	A	10	12	3	3	3	3
20,000	-21.2	-19	2	4	5	-16	5	8	9	-5	17	18	19	-12	9	11	12	-13	8	12	13	3	3	3	2
10,000	- 4.6	-3	1	4	5	1	6	8	10	12	17	18	19	5	10	12	13	4	9	12	13	3	4	2	3
BASRA TO TUNIS																						1899 N.MI.			
53,000	-56.5	-61	-5	-2	-1	-60	-3	-1	-0	-67	-11	-9	-8	-64	-7	-5	-4	-A3	-7	-4	-2	4	3	3	3
40,000	-56.5	-55	1	4	6	-56	0	4	6	-47	9	11	12	-5A	1	3	4	-54	3	6	8	4	5	3	3
30,000	-44.5	-47	-2	-0	1	-44	1	3	4	-30	14	16	17	-40	5	7	8	-40	4	8	11	3	3	3	3
20,000	-21.2	-21	0	3	4	-17	4	6	8	-6	15	17	18	-13	A	10	11	-14	7	10	12	4	3	3	3
10,000	- 4.6	-5	-0	2	4	0	5	7	9	11	15	17	18	4	9	11	12	3	7	10	12	4	4	2	3
BEIRUT TO BENGHAZI																						772 N.MI.			
53,000	-56.5	-63	-6	-4	-3	-61	-4	-2	-1	-69	-13	-11	-10	-65	-8	-6	-5	-64	-8	-5	-4	3	3	3	3
40,000	-56.5	-55	2	4	6	-56	0	4	5	-47	9	11	12	-56	1	3	4	-54	3	6	8	4	5	3	3
30,000	-44.5	-46	-2	0	1	-43	2	4	5	-29	15	17	19	-39	5	7	8	-39	5	9	11	3	3	3	3
20,000	-21.2	-20	1	4	5	-16	5	7	8	-5	16	18	18	-13	8	10	11	-14	8	11	13	4	3	2	2
10,000	- 4.6	-4	0	3	4	1	5	8	9	11	15	17	17	5	10	11	12	3	8	11	12	4	4	2	3
BEIRUT TO BOMBAY																						2179 N.MI.			
53,000	-56.5	-69	-12	-10	-9	-68	-12	-9	-8	-73	-17	-14	-13	-71	-15	-12	-11	-70	-14	-11	-9	4	4	4	4
40,000	-56.5	-54	2	5	7	-53	3	6	8	-47	10	12	13	-54	2	5	6	-52	4	8	10	4	5	3	4
30,000	-44.5	-40	4	7	8	-38	7	9	11	-26	18	20	21	-35	9	12	13	-35	10	13	15	4	4	3	3
20,000	-21.2	-15	6	8	10	-11	10	12	13	-3	18	20	21	-9	12	14	15	-9	12	15	17	3	3	3	3
10,000	- 4.6	1	6	8	9	7	11	13	14	15	20	21	22	7	12	14	15	8	12	15	17	3	3	2	3
BEIRUT TO BRUSSELS																						1693 N.MI.			
53,000	-56.5	-57	-1	2	4	-56	1	3	4	-57	-1	1	2	-60	-3	-1	0	-58	-1	2	3	4	4	3	4
40,000	-56.5	-57	-1	3	4	-56	0	4	5	-49	7	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-46	-2	0	2	-36	8	11	12	-42	2	5	6	-44	1	5	7	4	4	3	4
20,000	-21.2	-25	-4	-1	1	-21	1	3	5	-11	11	13	14	-16	5	8	9	-18	3	7	8	5	4	3	4
10,000	- 4.6	-10	-5	-2	-0	-4	1	3	5	5	9	11	13	0	5	7	9	-2	2	6	8	5	4	3	4
BEIRUT TO CAIRO																						304 N.MI.			
53,000	-56.5	-64	-H	-5	-4	-62	-6	-4	-2	-71	-14	-12	-11	-66	-10	-7	-6	-66	-9	-6	-5	3	3	3	3
40,000	-56.5	-54	2	5	6	-55	1	4	6	-47	10	12	13	-55	1	3	4	-53	3	7	M	4	5	3	3
30,000	-44.5	-46	-1	1	2	-42	3	5	6	-27	17	19	20	-39	6	8	9	-38	6	10	13	3	3	3	3
20,000	-21.2	-19	2	4	6	-16	5	8	9	-4	17	19	20	-12	9	11	12	-13	9	12	14	3	3	3	2
10,000	- 4.6	-3	1	4	5	1	6	8	10	12	17	18	19	A	10	12	13	4	9	12	13	3	4	2	3
BEIRUT TO CALCUTTA																						2847 N.MI.			
53,000	-56.5	-67	-10	-8	-6	-65	-8	-6	-4	-72	-15	-12	-11	-68	-12	-9	-7	-68	-11	-8	-6	4	4	4	4
40,000	-56.5	-55	2	5	7	-54	3	6	8	-47	9	12	14	-55	2	5	6	-53	4	8	10	5	5	4	4
30,000	-44.5	-42	3	6	7	-39	5	8	10	-26	18	20	21	-36	9	11	12	-36	9	13	15	4	4	3	4
20,000	-21.2	-17	4	7	8	-13	9	11	12	-2	19	21	22	-10	11	13	14	-10	11	14	16	4	4	3	3
10,000	- 4.6	-1	4	6	8	5	10	12	13	14	19	21	21	7	11	13	14	6	11	14	16	4	3	2	3
BEIRUT TO COLOMBO																						2943 N.MI.			
53,000	-56.5	-73	-17	-14	-13	-72	-16	-13	-12	-75	-18	-16	-15	-75	-18	-16	-15	-74	-17	-15	-13	3	4	3	3
40,000	-56.5	-55	2	4	6	-53	4	7	8	-48	8	10	11	-54	3	5	6	-52	4	7	8	4	4	3	3
30,000	-44.5	-37	8	10	11	-35	10	12	13	-27	17	19	20	-34	11	13	14	-33	11	14	16	3	3	3	3
20,000	-21.2	-11	10	12	13	-9	12	14	15	-3	18	19	20	-8	14	15	16	-8	13	16	17	3	3	2	2
10,000	- 4.6	5	9	11	12	8	13	14	15	13	18	19	20	8	13	14	15	9	13	15	17	3	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50*	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BEIRUT TO COPENHAGEN																						1614 N.MI.			
55,000	-56.5	-57	-0	3	4	-55	1	4	5	-56	1	3	4	-59	-3	-0	1	-57	-0	2	4	4	3	3	4
40,000	-56.5	-57	-1	2	4	-56	1	4	6	-49	8	10	12	-56	0	3	4	-54	2	6	8	5	5	4	4
30,000	-44.5	-51	-6	-4	-3	-47	-2	-0	1	-37	8	10	12	-43	2	4	5	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-21	-0	3	5	-11	10	12	13	-17	4	7	8	-19	2	6	8	5	5	4	4
10,000	- 4.6	-11	-7	-3	-1	-5	-0	3	4	4	9	11	12	-1	3	6	8	-3	1	5	7	5	5	3	4
BEIRUT TO DAMASCUS																						43 N.MI.			
55,000	-56.5	-62	-6	-3	-2	-61	-4	-2	-1	-70	-13	-11	-10	-64	-8	-6	-4	-64	-8	-5	-3	4	3	3	3
40,000	-56.5	-55	2	4	6	-56	1	4	6	-46	10	12	13	-56	1	3	4	-53	3	7	8	4	5	3	3
30,000	-44.5	-47	-2	-0	1	-43	1	3	5	-28	17	19	20	-40	5	7	8	-39	5	10	12	3	3	3	3
20,000	-21.2	-20	1	3	4	-17	4	7	8	-4	17	19	20	-13	8	10	11	-14	8	11	13	3	3	3	3
10,000	- 4.6	-5	0	2	4	1	5	8	9	12	16	18	19	5	10	12	13	3	8	11	13	4	4	2	3
BEIRUT TO DHAHRAN																						886 N.MI.			
55,000	-56.5	-66	-9	-7	-6	-65	-8	-6	-5	-72	-15	-13	-12	-68	-12	-9	-8	-68	-11	-8	-7	3	3	3	4
40,000	-56.5	-54	2	5	6	-54	2	5	7	-46	10	12	13	-55	2	4	5	-52	4	7	9	4	4	3	3
30,000	-44.5	-43	1	3	5	-40	5	7	8	-26	18	20	21	-37	8	10	11	-37	8	12	14	3	3	3	3
20,000	-21.2	-17	4	6	7	-14	7	9	10	-3	19	20	21	-11	11	12	13	-11	10	14	16	3	3	3	2
10,000	- 4.6	-1	3	6	7	4	8	10	12	15	20	21	22	7	11	13	14	6	11	14	16	3	3	2	3
BEIRUT TO DJAKARTA																						4693 N.MI.			
55,000	-56.5	-76	-19	-17	-16	-74	-17	-15	-14	-76	-19	-17	-16	-76	-20	-17	-16	-75	-19	-16	-15	3	3	3	3
40,000	-56.5	-55	2	4	5	-52	4	6	8	-50	6	8	9	-54	2	4	5	-53	4	6	7	3	3	3	3
30,000	-44.5	-35	9	11	12	-34	11	13	14	-28	16	18	19	-33	11	13	14	-33	12	14	16	3	3	2	3
20,000	-21.2	-10	12	13	14	-8	13	15	16	-4	17	19	20	-7	14	16	16	-7	14	16	17	2	2	2	2
10,000	- 4.6	6	10	12	13	9	13	15	15	12	17	18	16	8	13	14	15	9	13	15	16	2	2	2	2
BEIRUT TO DUSSELDORF																						1628 N.MI.			
55,000	-56.5	-57	-1	2	4	-56	1	3	4	-57	-1	1	3	-60	-3	-1	0	-57	-1	2	3	4	3	3	4
40,000	-56.5	-57	-1	3	4	-56	0	4	6	-49	7	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-46	-2	0	2	-36	8	11	12	-42	2	5	6	-44	1	5	7	4	4	3	3
20,000	-21.2	-25	-4	-1	1	-21	1	3	5	-11	11	13	14	-16	5	7	9	-18	3	7	8	5	4	3	4
10,000	- 4.6	-10	-5	-2	-0	-4	0	3	5	5	9	11	12	-0	5	7	9	-2	2	6	8	5	4	3	4
BEIRUT TO FRANKFURT																						1531 N.MI.			
55,000	-56.5	-57	-1	2	4	-56	1	3	4	-58	-1	1	2	-60	-4	-1	0	-58	-1	1	3	4	3	3	4
40,000	-56.5	-57	-0	3	4	-56	0	4	5	-49	8	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-46	-2	1	2	-36	9	11	12	-42	2	5	6	-44	1	5	7	4	4	3	3
20,000	-21.2	-25	-4	-1	1	-20	1	4	5	-10	11	13	14	-16	5	8	9	-18	3	7	9	5	4	3	3
10,000	- 4.6	-10	-5	-2	-0	-4	1	4	5	5	10	12	13	0	5	7	9	-2	3	6	8	5	4	3	4
BEIRUT TO GENEVA																						1529 N.MI.			
55,000	-56.5	-57	-1	2	4	-57	-0	2	4	-60	-3	-1	-0	-61	-4	-2	-1	-59	-2	1	2	4	3	3	3
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-49	7	10	11	-56	0	2	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-49	-5	-3	-1	-46	-1	1	2	-35	9	12	13	-42	3	5	6	-43	2	5	7	4	4	3	3
20,000	-21.2	-24	-3	-0	1	-20	1	4	6	-10	12	13	15	-15	6	8	9	-17	4	7	9	4	4	3	3
10,000	- 4.6	-8	-4	-1	1	-3	1	4	6	6	11	13	14	1	6	8	9	-1	4	7	9	4	4	3	3
BEIRUT TO HAMBURG																						1606 N.MI.			
55,000	-56.5	-57	-0	3	4	-55	1	3	5	-56	0	2	4	-59	-3	-0	1	-57	-1	2	4	4	3	3	4
40,000	-56.5	-57	-1	3	4	-56	1	4	6	-49	8	10	12	-56	0	3	4	-55	2	6	8	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-47	-2	0	1	-36	8	10	12	-43	2	4	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-1	0	-21	0	3	5	-11	10	12	13	-17	5	7	9	-19	3	6	8	5	4	4	4
10,000	- 4.6	-11	-6	-3	-1	-5	0	3	5	4	9	11	12	-1	4	7	8	-3	2	5	7	5	4	3	4
BEIRUT TO HELSINKI																						1641 N.MI.			
55,000	-56.5	-57	-0	3	4	-55	2	4	5	-54	3	5	6	-58	-2	1	2	-56	1	3	4	4	3	3	4
40,000	-56.5	-58	-1	2	4	-55	1	5	7	-48	8	11	12	-56	1	4	5	-54	2	6	8	5	5	4	4
30,000	-44.5	-52	-7	-5	-3	-47	-3	0	2	-37	8	10	12	-43	1	4	5	-45	-0	4	6	4	4	4	4
20,000	-21.2	-27	-6	-2	-1	-22	-0	3	5	-12	10	12	13	-18	3	6	8	-19	2	6	8	5	5	3	4
10,000	- 4.6	-12	-8	-4	-2	-5	-1	3	5	3	8	10	11	-2	2	5	7	-4	1	4	6	5	5	3	4
BEIRUT TO ISTANBUL																						533 N.MI.			
55,000	-56.5	-59	-2	0	2	-58	-1	1	2	-65	-8	-6	-5	-62	-5	-3	-2	-61	-4	-2	-0	4	3	3	3
40,000	-56.5	-56	1	4	5	-56	0	4	6	-47	10	12	13	-56	0	2	4	-54	3	6	8	4	5	3	3
30,000	-44.5	-49	-4	-2	-1	-45	-0	2	[illegible]	-31	13	15	17	-41	4	6	7	-41	3	7	9	3	3	3	3
20,000	-21.2	-23	-2	1	2	-19	2	5	[illegible]	-7	14	16	17	-14	7	9	10	-16	5	9	11	4	4	3	3
10,000	- 4.6	-8	-3	-0	1	-2	3	6	7	8	13	15	15	3	7	10	11	1	5	8	10	4	4	3	3
BEIRUT TO JIDDA																						766 N.MI.			
55,000	-56.5	-68	-11	-9	-8	-67	-10	-8	-7	-73	-16	-14	-13	-70	-14	-12	-10	-69	-13	-10	-9	3	3	3	3
40,000	-56.5	-54	3	5	6	-54	2	5	6	-47	9	11	12	-54	2	4	5	-52	4	7	8	3	4	2	3
30,000	-44.5	-43	2	4	5	-38	6	8	9	-27	18	20	20	-36	9	10	11	-36	9	12	14	3	3	2	3
20,000	-21.2	-16	6	7	8	-13	8	10	11	-3	18	20	20	-10	12	13	14	-10	11	14	15	3	3	2	2
10,000	- 4.6	1	5	7	8	4	9	11	12	15	19	21	21	7	12	14	14	7	11	14	16	3	3	2	2
BEIRUT TO KARACHI																						1732 N.MI.			
55,000	-56.5	-66	-10	-7	-6	-65	-9	-6	-5	-72	-15	-13	-12	-69	-12	-10	-8	-68	-12	-9	-7	4	4	3	4
40,000	-56.5	-54	2	5	7	-54	3	6	8	-46	10	12	14	-55	2	4	6	-52	4	8	10	4	5	3	4
30,000	-44.5	-42	2	5	6	-37	5	8	9	-26	18	20	21	-36	8	10	12	-36	9	12	15	4	4	3	3
20,000	-21.2	-17	4	6	8	-13	8	11	12	-2	19	21	22	-10	11	13	14	-11	11	14	16	3	3	3	3
10,000	- 4.6	-1	4	6	7	5	10	12	13	15	20	21	22	7	11	13	14	7	11	15	16	4	3	2	3
BEIRUT TO KHARTOUM																						1105 N.MI.			
55,000	-56.5	-70	-14	-12	-11	-67	-12	-11	-9	-74	-17	-15	-14	-72	-16	-14	-13	-71	-15	-12	-11	3	3	3	3
40,000	-56.5	-54	3	5	6	-54	3	5	7	-48	8	10	10	-56	3	4	5	-53	4	6	8	3	4	2	2
30,000	-44.5	-41	3	5	6	-36	6	10	11	-27	17	19	20	-35	10	11	12	-35	10	13	14	2	2	2	2
20,000	-21.2	-14	8	9	10	-11	10	12	13	-4	17	19	20	-9	12	14	14	-9	12	14	16	3	3	2	2
10,000	- 4.6	3	7	9	10	6	10	12	13	14	18	20	20	8	13	14	15	8	12	15	16	3	3	2	2
BEIRUT TO KUWAIT																						693 N.MI.			
55,000	-56.5	-65	-8	-6	-4	-63	-7	-4	-3	-71	-15	-13	-11	-67	-10	-8	-6	-66	-10	-7	-6	4	3	3	4
40,000	-56.5	-54	2	5	6	-55	2	5	7	-46	10	12	13	-55	2	4	5	-52	4	7	9	4	5	3	3
30,000	-44.5	-45	-0	2	3	-41	3	5	7	-26	18	20	21	-38	7	9	10	-38	7	11	13	3	3	3	3
20,000	-21.2	-17	3	5	6	-15	6	8	9	-3	18	20	21	-11	10	11	12	-12	9	13	15	3	3	3	3
10,000	- 4.6	-3	2	4	6	3	7	10	11	14	19	20	21	6	11	13	14	5	10	13	15	4	3	2	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																				STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
BEIRUT TO LISBON																						2156 N.MI.			
55,000	-56.5	-59	-3	0	2	-58	-2	1	2	-63	-7	-4	-3	-62	-5	-3	-2	-61	-4	-1	0	4	4	3	3
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-50	7	9	10	-56	0	2	4	-55	2	5	7	5	5	3	3
30,000	-44.5	-47	-3	-1	0	-45	-0	2	3	-34	10	12	13	-41	4	6	7	-42	3	6	8	3	3	3	3
20,000	-21.2	-22	-1	2	4	-18	3	5	7	-9	12	14	15	-14	7	9	10	-16	5	9	10	4	3	3	3
10,000	- 4.6	-5	-1	2	3	-1	4	6	8	9	13	15	16	2	7	9	10	1	6	9	11	4	4	3	3
BEIRUT TO LONDON																						1877 N.MI.			
55,000	-56.5	-57	-1	2	4	-56	1	3	4	-57	-1	2	3	-60	-3	-1	1	-57	-1	2	3	5	4	3	4
40,000	-56.5	-57	-1	3	5	-56	0	4	6	-49	7	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-46	-2	0	2	-36	8	10	12	-42	2	5	6	-44	1	4	6	4	4	3	4
20,000	-21.2	-25	-4	-1	1	-21	1	3	5	-11	10	12	13	-16	5	7	9	-18	3	6	8	5	4	3	4
10,000	- 4.6	-9	-5	-2	-0	-4	0	3	5	5	9	11	12	-0	5	7	8	-2	2	6	8	5	4	3	4
BEIRUT TO MADRID																						1893 N.MI.			
55,000	-56.5	-59	-2	1	2	-58	-1	1	2	-63	-6	-4	-3	-62	-5	-3	-2	-60	-4	-1	1	4	4	3	3
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-49	7	9	11	-56	0	2	4	-55	2	5	7	5	5	3	3
30,000	-44.5	-48	-3	-1	0	-45	-1	2	3	-34	10	12	14	-41	4	6	7	-42	2	6	8	3	3	3	3
20,000	-21.2	-22	-1	2	3	-19	3	5	6	-9	12	14	15	-14	7	9	10	-16	5	8	10	4	4	3	3
10,000	- 4.6	-6	-1	1	3	-1	3	6	7	8	13	15	16	2	7	9	10	1	5	9	11	4	4	3	3
BEIRUT TO MILAN																						1414 N.MI.			
55,000	-56.5	-58	-1	2	3	-57	-0	2	3	-60	-4	-2	-1	-61	-4	-2	-1	-59	-2	0	2	4	3	3	3
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-49	8	10	11	-56	0	2	4	-55	2	5	7	5	5	3	3
30,000	-44.5	-49	-5	-3	-1	-46	-1	1	2	-35	10	12	13	-42	3	5	6	-43	2	5	8	3	4	3	3
20,000	-21.2	-24	-3	-0	1	-20	2	4	6	-9	12	14	15	-15	6	8	9	-17	4	8	9	4	4	3	3
10,000	- 4.6	-8	-4	-1	1	-3	2	4	6	6	11	13	14	1	6	8	9	-1	4	7	9	4	4	3	3
BEIRUT TO MUNICH																						1367 N.MI.			
55,000	-56.5	-57	-1	2	4	-56	0	3	4	-59	-3	-0	1	-60	-4	-1	-0	-58	-2	1	2	4	3	3	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-49	8	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-50	-5	-3	-2	-46	-2	1	2	-35	9	12	13	-42	3	5	6	-43	1	5	7	4	4	3	3
20,000	-21.2	-25	-4	-1	1	-20	1	4	5	-10	11	13	14	-16	6	8	9	-19	4	7	9	4	4	3	3
10,000	- 4.6	-9	-5	-2	-0	-4	1	4	6	6	10	12	13	1	5	8	9	-2	3	6	8	4	4	3	4
BEIRUT TO NAIROBI																						2111 N.MI.			
55,000	-56.5	-74	-17	-15	-14	-73	-17	-15	-14	-75	-18	-16	-15	-75	-18	-16	-15	-74	-18	-16	-14	3	3	3	3
40,000	-56.5	-54	3	4	5	-55	4	6	7	-50	6	7	8	-53	4	5	6	-52	4	6	7	3	3	2	2
30,000	-44.5	-37	8	9	10	-35	11	13	13	-29	16	17	18	-35	12	13	14	-33	12	14	15	2	2	2	2
20,000	-21.2	-9	12	13	14	-8	13	15	15	-4	17	18	19	-7	14	15	16	-7	14	16	17	2	2	2	2
10,000	- 4.6	6	11	12	13	8	12	14	15	13	17	18	19	9	14	15	15	9	14	15	16	2	2	2	2
BEIRUT TO NEW DELHI																						2145 N.MI.			
55,000	-56.5	-66	-8	-5	-4	-63	-6	-4	-3	-70	-14	-11	-10	-66	-9	-7	-5	-66	-9	-6	-5	4	4	4	4
40,000	-56.5	-54	2	5	7	-54	2	6	7	-47	10	13	14	-55	2	4	6	-53	4	8	10	5	5	4	4
30,000	-44.5	-44	1	4	5	-41	4	6	8	-27	18	20	21	-38	7	9	11	-37	7	12	14	4	4	3	4
20,000	-21.2	-19	2	5	6	-14	7	10	11	-2	19	21	22	-11	10	12	13	-12	9	13	15	4	4	3	3
10,000	- 4.6	-3	2	5	6	4	9	11	12	15	19	21	22	6	11	13	14	5	10	14	16	4	4	3	3
BEIRUT TO NICOSIA																						135 N.MI.			
55,000	-56.5	-61	-5	-2	-1	-60	-3	-1	0	-69	-13	-11	-9	-63	-7	-5	-3	-63	-7	-4	-3	4	3	3	3
40,000	-56.5	-55	1	4	6	-56	1	4	4	-46	10	12	13	-56	0	2	4	-53	3	6	8	4	5	3	3
30,000	-44.5	-47	-3	-1	1	-44	1	3	4	-28	16	18	19	-40	4	6	7	-40	5	9	11	3	3	3	3
20,000	-21.2	-21	0	3	4	-17	4	6	7	-5	16	18	19	-13	8	10	11	-14	7	11	13	4	4	3	3
10,000	- 4.6	-5	-1	2	3	0	5	7	9	11	15	17	18	5	9	11	12	2	7	10	12	4	4	2	3
BEIRUT TO PARIS																						1722 N.MI.			
55,000	-56.5	-57	-1	2	4	-56	0	3	4	-58	-2	0	2	-60	-4	-1	0	-58	-1	1	3	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-0	3	5	-50	7	9	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-50	-5	-3	-2	-46	-2	1	2	-36	9	11	12	-42	3	5	6	-43	1	5	7	4	4	3	4
20,000	-21.2	-25	-4	-0	1	-20	1	4	5	-10	11	13	14	-16	5	8	9	-18	3	7	9	5	4	3	3
10,000	- 4.6	-9	-4	-1	0	-4	1	4	5	5	10	12	13	0	5	7	9	-2	3	6	8	5	4	3	4
BEIRUT TO PRAGUE																						1350 N.MI.			
55,000	-56.5	-57	-1	2	4	-56	1	3	4	-58	-2	1	2	-60	-3	-1	0	-58	-1	1	3	4	3	3	4
40,000	-56.5	-57	-0	3	4	-56	0	4	6	-49	8	10	12	-56	0	3	4	-54	2	6	8	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-46	-2	1	2	-35	9	11	13	-42	2	5	6	-43	1	5	7	4	4	3	3
20,000	-21.2	-25	-4	-1	1	-20	1	4	5	-10	11	13	14	-16	5	8	9	-18	3	7	9	5	4	3	3
10,000	- 4.6	-10	-5	-2	-1	-4	1	4	5	5	10	12	13	0	5	7	9	-2	2	6	8	5	4	3	4
BEIRUT TO RANGOON																						3392 N.MI.			
55,000	-56.5	-69	-12	-10	-9	-67	-10	-8	-6	-73	-16	-14	-12	-70	-14	-11	-10	-70	-13	-10	-8	4	4	4	4
40,000	-56.5	-55	2	5	6	-53	3	6	8	-48	9	11	13	-54	2	5	6	-53	4	8	10	4	5	4	4
30,000	-44.5	-40	4	7	9	-38	7	10	11	-27	18	20	21	-35	10	12	13	-35	10	13	15	4	4	3	3
20,000	-21.2	-15	6	9	10	-11	10	12	14	-3	19	20	21	-9	12	14	15	-9	12	15	17	3	3	3	3
10,000	- 4.6	1	6	8	9	6	11	13	14	14	19	20	21	7	12	14	15	7	12	15	16	3	3	2	3
BEIRUT TO RIYADH																						801 N.MI.			
55,000	-56.5	-67	-10	-8	-7	-65	-9	-7	-6	-72	-16	-14	-12	-69	-13	-10	-9	-68	-12	-9	-8	3	3	3	3
40,000	-56.5	-54	2	5	6	-54	2	5	7	-47	10	12	13	-55	2	4	5	-52	4	7	9	4	4	3	3
30,000	-44.5	-43	1	3	5	-39	5	7	8	-26	18	20	21	-37	8	10	11	-36	8	12	14	3	3	3	3
20,000	-21.2	-17	5	7	8	-14	8	9	11	-3	18	20	21	-10	11	13	13	-11	10	14	16	3	3	3	2
10,000	- 4.6	-1	4	6	7	4	8	11	12	15	20	21	22	7	12	13	14	6	11	14	16	3	3	2	2
BEIRUT TO ROME																						1181 N.MI.			
55,000	-56.5	-58	-2	1	2	-57	-1	1	3	-63	-7	-5	-3	-62	-5	-3	-2	-60	-4	-1	1	4	3	3	3
40,000	-56.5	-56	0	3	5	-57	-1	3	5	-48	9	11	12	-56	0	2	4	-54	2	6	7	5	5	3	3
30,000	-44.5	-49	-4	-2	-1	-45	-1	1	3	-35	11	13	14	-41	3	6	7	-42	2	6	8	3	3	3	3
20,000	-21.2	-23	-2	1	2	-19	2	5	6	-8	13	15	16	-15	7	8	10	-16	5	8	10	4	4	3	3
10,000	- 4.6	-7	-3	0	1	-2	3	5	7	7	12	14	15	2	7	9	10	0	5	8	10	4	4	3	3
BEIRUT TO SINGAPORE																						4289 N.MI.			
55,000	-56.5	-74	-18	-15	-14	-72	-15	-13	-12	-75	-19	-16	-15	-75	-19	-16	-15	-74	-18	-15	-13	3	3	4	3
40,000	-56.5	-55	2	4	5	-55	4	6	8	-50	7	9	10	-54	2	4	6	-53	4	6	8	4	4	3	3
30,000	-44.5	-36	8	10	11	-34	10	12	13	-28	17	18	19	-33	11	13	14	-33	11	14	16	3	3	2	3
20,000	-21.2	-11	10	12	13	-8	13	15	15	-3	18	19	20	-7	14	15	16	-8	14	16	17	3	3	2	2
10,000	- 4.6	5	9	11	12	8	13	15	15	13	17	19	19	8	13	14	15	8	13	15	16	3	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	075	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BEIRUT TO STOCKHOLM																									1697 N.MI.
55,000	-56.5	-57	-0	3	4	-55	2	4	5	-54	2	4	6	-58	-2	1	2	-56	0	3	4	4	3	3	4
40,000	-56.5	-58	-1	2	4	-55	1	5	7	-49	8	11	12	-56	1	3	5	-54	2	6	8	5	5	4	4
30,000	-44.5	-51	-7	-5	-3	-47	-3	-0	1	-37	7	10	11	-43	1	4	5	-45	-0	4	6	4	4	4	4
20,000	-21.2	-27	-6	-2	-1	-22	-1	3	4	-12	10	12	13	-18	4	6	8	-19	2	5	7	5	5	3	4
10,000	- 4.6	-12	-7	-4	-2	-5	-1	2	4	3	8	10	11	-2	2	5	7	-4	1	4	6	5	5	3	4
BEIRUT TO TEHERAN																									787 N.MI.
55,000	-56.5	-61	-5	-2	-1	-60	-3	-1	0	-69	-13	-11	-9	-63	-7	-4	-3	-63	-7	-4	-2	4	3	3	4
40,000	-56.5	-55	1	4	6	-55	1	5	7	-46	11	13	14	-56	1	3	4	-53	4	7	9	4	5	3	3
30,000	-44.5	-47	-2	-0	1	-43	1	4	5	-27	17	19	20	-40	4	7	8	-39	5	10	12	3	3	3	3
20,000	-21.2	-21	-0	2	4	-17	4	7	8	-3	18	20	21	-13	8	10	11	-14	7	12	14	4	3	3	3
10,000	- 4.6	-5	-1	2	4	1	5	8	9	13	17	19	20	5	9	12	13	3	8	12	13	4	4	3	3
BEIRUT TO TEL AVIV-JAFFA																									114 N.MI.
55,000	-56.5	-63	-7	-4	-3	-61	-5	-3	-2	-70	-14	-12	-11	-65	-9	-6	-5	-65	-8	-6	-4	4	3	3	3
40,000	-56.5	-55	2	5	6	-55	1	4	6	-46	10	12	13	-56	1	3	4	-53	3	7	8	4	5	3	3
30,000	-44.5	-46	-2	0	2	-42	2	4	5	-27	17	19	20	-39	5	7	8	-39	6	10	12	3	3	3	3
20,000	-21.2	-20	1	4	5	-16	5	7	8	-4	17	19	20	-12	9	10	11	-13	8	12	14	3	3	3	2
10,000	- 4.6	-4	1	3	4	1	6	8	9	12	17	18	19	5	10	12	13	4	8	11	13	4	4	2	3
BEIRUT TO TRIPOLI																									1121 N.MI.
55,000	-56.5	-62	-6	-3	-2	-60	-4	-2	-1	-68	-12	-10	-9	-64	-8	-5	-4	-64	-7	-4	-3	4	3	3	3
40,000	-56.5	-55	1	4	6	-56	0	3	5	-48	9	11	12	-56	1	3	4	-54	3	6	8	4	5	3	3
30,000	-44.5	-46	-2	0	1	-43	1	3	5	-30	14	16	17	-40	5	7	8	-40	5	9	11	3	3	3	3
20,000	-21.2	-20	1	3	5	-17	5	7	8	-6	15	17	18	-13	8	10	11	-14	7	10	12	4	3	2	2
10,000	- 4.5	-4	0	3	4	0	5	8	9	10	15	16	17	4	9	11	12	3	7	10	12	4	4	2	3
BEIRUT TO TUNIS																									1245 N.MI.
55,000	-56.5	-60	-4	-1	0	-59	-2	-0	1	-66	-9	-7	-6	-63	-6	-4	-3	-62	-5	-3	-1	4	3	3	3
40,000	-56.5	-56	1	4	5	-57	-0	3	5	-48	9	11	12	-56	0	2	4	-54	2	6	7	5	5	3	3
30,000	-44.5	-47	-3	-1	0	-44	0	2	3	-32	12	15	16	-41	4	6	7	-41	3	7	9	3	3	3	3
20,000	-21.2	-22	-0	2	3	-18	3	6	7	-7	14	16	16	-14	7	9	10	-15	6	9	11	4	4	3	3
10,000	- 4.6	-6	-1	1	3	-1	4	7	8	9	14	15	16	3	8	10	11	1	6	9	11	4	4	3	3
BEIRUT TO VIENNA																									1206 N.MI.
55,000	-56.5	-57	-1	2	4	-56	0	3	4	-59	-3	-1	1	-60	-4	-1	-0	-58	-2	1	2	4	3	3	4
40,000	-56.5	-57	-0	3	5	-56	0	4	5	-48	8	11	12	-56	0	2	4	-54	2	6	8	5	5	3	3
30,000	-44.5	-50	-6	-3	-2	-46	-2	1	2	-35	10	12	13	-42	3	5	6	-43	1	5	7	3	3	3	3
20,000	-21.2	-25	-4	-1	1	-20	1	4	5	-10	11	13	14	-16	6	8	9	-18	4	7	9	4	4	3	3
10,000	- 4.6	-10	-5	-2	-0	-3	1	4	6	6	10	12	13	1	5	8	9	-2	3	6	8	4	4	3	4
BEIRUT TO WARSAW																									1266 N.MI.
55,000	-56.5	-57	-0	2	4	-56	1	3	4	-57	-1	1	3	-60	-3	-1	1	-57	-1	2	3	4	3	3	4
40,000	-56.5	-57	-0	3	4	-56	1	4	6	-48	8	11	12	-56	0	3	4	-54	2	6	8	5	5	4	4
30,000	-44.5	-51	-6	-4	-3	-46	-2	1	2	-36	9	11	13	-42	2	5	6	-44	1	5	7	3	4	4	3
20,000	-21.2	-25	-4	-1	0	-21	1	4	5	-10	11	13	14	-16	5	7	9	-18	3	7	9	5	5	3	4
10,000	- 4.6	-11	-6	-3	-1	-4	1	4	5	5	9	11	12	-0	4	7	8	-3	2	6	7	5	5	3	4
BEIRUT TO ZURICH																									1462 N.MI.
55,000	-56.5	-57	-1	2	4	-56	0	2	4	-59	-3	-1	1	-60	-4	-2	-0	-58	-2	1	2	4	3	3	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-49	8	10	11	-56	0	2	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-50	-5	-3	-2	-46	-2	1	2	-35	9	12	13	-42	3	5	6	-43	1	5	7	4	4	3	3
20,000	-21.2	-25	-3	-0	1	-20	1	4	5	-10	11	13	14	-16	6	8	9	-17	4	7	9	4	4	3	3
10,000	- 4.6	-9	-4	-1	0	-3	1	4	6	6	10	12	13	1	5	8	9	-1	3	7	8	4	4	3	4
BELEM TO BERLIN																									4467 N.MI.
55,000	-56.5	-68	-11	-9	-7	-67	-10	-8	-7	-65	-9	-7	-6	-69	-12	-10	-9	-67	-11	-8	-7	4	3	3	3
40,000	-56.5	-57	-0	3	4	-56	1	4	5	-55	3	5	6	-55	2	4	5	-55	1	4	5	4	5	3	3
30,000	-44.5	-41	3	5	6	-39	6	7	8	-36	9	11	12	-37	8	10	11	-38	6	9	10	3	3	2	3
20,000	-21.2	-15	6	8	10	-13	8	10	11	-9	12	14	14	-10	11	13	14	-12	9	11	12	3	3	2	3
10,000	- 4.5	1	6	8	9	3	7	9	10	7	12	13	14	5	10	11	12	4	9	11	12	3	3	2	3
BELEM TO BERMUDA																									2223 N.MI.
55,000	-56.5	-76	-19	-17	-16	-75	-19	-17	-16	-71	-15	-13	-12	-76	-19	-17	-16	-74	-18	-16	-14	3	3	2	3
40,000	-56.5	-55	2	4	5	-55	2	4	5	-55	1	3	3	-54	2	4	4	-55	2	3	4	3	3	2	2
30,000	-44.5	-35	9	11	11	-34	11	12	13	-33	11	12	13	-32	12	14	14	-34	11	12	13	2	2	2	2
20,000	-21.2	-6	13	14	15	-7	14	15	16	-7	14	15	16	-6	15	16	17	-7	14	15	16	2	2	2	2
10,000	- 4.6	7	12	13	14	7	12	13	14	9	13	14	15	9	13	15	15	8	13	14	15	2	2	1	2
BELEM TO BOGOTA																									1582 N.MI.
55,000	-56.5	-79	-22	-20	-19	-78	-21	-19	-18	-73	-16	-14	-13	-77	-20	-19	-18	-76	-20	-17	-16	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-54	2	4	5	-54	3	4	5	-53	3	5	7	3	3	2	2
30,000	-44.5	-32	12	14	14	-30	15	16	17	-32	13	14	15	-30	15	16	16	-31	14	15	16	2	2	2	2
20,000	-21.2	-4	17	18	19	-4	17	18	19	-7	14	15	15	-5	16	17	17	-5	16	17	18	2	2	1	1
10,000	- 4.6	10	15	16	16	10	15	16	17	9	14	15	15	10	15	16	17	10	15	16	16	2	2	2	2
BELEM TO BRAZILIA																									869 N.MI.
55,000	-56.5	-77	-21	-18	-17	-77	-20	-18	-17	-71	-14	-12	-11	-74	-17	-15	-14	-75	-18	-15	-13	4	3	4	3
40,000	-56.5	-54	3	5	6	-52	5	7	8	-53	4	6	6	-53	3	5	6	-53	4	6	8	3	4	3	2
30,000	-44.5	-32	13	14	15	-30	14	16	17	-32	13	14	15	-30	14	16	17	-31	13	15	16	2	3	2	2
20,000	-21.2	-5	17	18	19	-4	17	18	19	-8	13	15	15	-6	15	17	17	-6	16	17	18	2	2	2	2
10,000	- 4.6	10	15	16	16	10	15	16	17	7	12	13	14	10	15	16	17	9	14	15	16	2	2	2	2
BELEM TO BRUSSELS																									4130 N.MI.
55,000	-56.5	-69	-12	-10	-8	-67	-11	-9	-8	-66	-10	-8	-7	-70	-13	-11	-10	-68	-11	-9	-8	4	3	3	3
40,000	-56.5	-56	0	3	4	-56	0	3	5	-54	3	5	6	-55	2	4	5	-55	1	4	5	4	4	3	3
30,000	-44.5	-41	4	6	7	-38	6	8	9	-35	9	11	12	-36	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	10	-12	9	11	12	-9	12	14	15	-10	11	13	14	-11	10	12	13	3	3	2	2
10,000	- 4.6	2	7	9	10	3	8	10	11	7	12	13	14	6	10	[illegible]	13	5	9	11	12	3	3	2	2
BELEM TO BUENOS AIRES																									2084 N.MI.
55,000	-56.5	-74	-17	-15	-13	-73	-16	-14	-13	-67	-10	-8	-6	-69	-12	-10	-9	-71	-14	-11	-9	4	3	4	3
40,000	-56.5	-53	4	6	7	-53	4	6	8	-52	4	6	7	-54	3	5	6	-53	4	6	7	4	4	3	3
30,000	-44.5	-34	11	13	14	-33	11	13	14	-36	9	11	12	-33	11	13	14	-34	11	13	14	3	3	3	3
20,000	-21.2	-6	15	17	18	-7	14	15	16	-12	9	11	12	-8	13	15	16	-8	13	15	16	3	2	3	2
10,000	- 4.6	9	14	15	16	8	13	14	15	4	9	11	11	8	12	14	15	7	12	14	15	2	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	D50*	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
BELEM TO CAIRO																									4917 N.MI.
53,000	-56.5	-73	-17	-15	-14	-72	-16	-14	-13	-74	-17	-15	-14	-74	-18	-16	-15	-73	-17	-15	-14	3	3	3	3
40,000	-56.5	-54	2	5	6	-54	3	5	7	-52	4	6	6	-53	3	4	5	-53	3	5	6	3	4	2	2
30,000	-44.5	-38	6	8	8	-34	10	12	13	-31	13	14	15	-34	11	12	13	-34	10	12	33	2	2	2	2
20,000	-21.2	-11	10	12	12	-9	12	14	14	-6	16	17	17	-7	14	15	15	-8	13	15	15	2	2	2	2
10,000	-4.6	5	10	11	12	7	12	13	14	12	17	18	18	9	13	14	15	8	13	15	16	2	2	2	2
BELEM TO CARACAS																									1319 N.MI.
53,000	-56.5	-78	-22	-20	-19	-78	-21	-20	-19	-73	-16	-14	-13	-77	-21	-19	-18	-76	-20	-17	-16	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	6	7	-54	2	4	4	-54	3	4	5	-54	3	5	6	3	3	2	2
30,000	-44.5	-33	12	13	14	-30	14	16	17	-32	12	14	14	-30	14	15	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	16	18	18	-5	17	18	18	-7	14	15	16	-6	16	17	17	-6	16	17	18	2	2	1	1
10,000	-4.6	10	14	16	16	10	14	16	16	9	14	15	15	10	15	16	17	10	14	16	16	2	2	2	2
BELEM TO COPENHAGEN																									4521 N.MI.
53,000	-56.5	-67	-11	-8	-7	-66	-9	-7	-6	-64	-8	-6	-5	-68	-12	-10	-8	-67	-10	-7	-6	4	3	3	3
40,000	-56.5	-57	-0	3	4	-56	1	4	6	-53	3	5	7	-55	1	4	5	-55	1	4	5	4	5	3	3
30,000	-44.5	-42	3	5	6	-39	5	7	8	-36	9	10	11	-37	8	9	10	-38	6	8	10	3	3	3	3
20,000	-21.2	-15	6	8	9	-14	8	10	11	-9	12	13	14	-11	10	12	13	-12	9	13	12	3	3	2	3
10,000	-4.6	1	6	8	9	2	7	9	10	7	11	13	13	5	9	11	12	4	8	10	11	3	3	2	3
BELEM TO DAKAR																									2078 N.MI.
53,000	-56.5	-78	-21	-20	-19	-78	-21	-19	-19	-74	-18	-16	-15	-78	-21	-20	-19	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	2	4	5	-53	3	5	7	-54	2	4	4	-53	4	5	6	-54	3	4	5	3	3	2	2
30,000	-44.5	-33	11	12	13	-31	14	15	16	-32	12	13	14	-31	14	15	16	-32	13	14	15	2	2	2	2
20,000	-21.2	-7	14	15	16	-6	15	16	17	-6	15	16	16	-6	16	17	17	-6	15	16	17	2	2	1	1
10,000	-4.6	9	14	15	15	9	14	15	15	9	14	15	15	10	15	16	16	9	14	15	16	3	2	1	2
BELEM TO FORTALEZA																									655 N.MI.
53,000	-56.5	-78	-21	-19	-18	-78	-21	-20	-19	-72	-15	-13	-12	-76	-19	-18	-17	-76	-19	-16	-15	3	3	3	3
40,000	-56.5	-54	2	4	5	-52	4	7	8	-53	3	5	6	-53	3	5	5	-53	3	6	7	3	3	2	2
30,000	-44.5	-32	12	14	14	-30	15	16	17	-32	13	14	15	-30	15	16	17	-31	14	16	16	2	2	2	2
20,000	-21.2	-5	17	18	19	-4	17	18	19	-7	14	15	16	-6	16	17	18	-5	16	17	18	2	2	2	2
10,000	-4.6	10	15	16	16	10	15	16	16	9	13	14	15	10	15	16	17	10	14	16	16	2	2	2	2
BELEM TO HAVANA																									2464 N.MI.
53,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-18	-73	-16	-15	-14	-77	-21	-19	-18	-76	-20	-17	-16	3	3	2	3
40,000	-56.5	-54	2	4	5	-53	4	5	6	-55	1	3	3	-54	3	4	5	-54	3	4	5	2	2	2	2
30,000	-44.5	-34	11	12	13	-32	13	14	15	-33	12	13	14	-31	13	14	15	-32	12	14	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-6	16	17	17	-7	14	15	16	-6	16	17	17	-6	15	16	17	2	2	1	1
10,000	-4.6	9	13	14	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	15	2	2	1	2
BELEM TO HOUSTON																									3261 N.MI.
53,000	-56.5	-76	-20	-18	-17	-75	-19	-17	-16	-72	-16	-14	-13	-77	-20	-18	-17	-75	-19	-17	-15	3	3	2	3
40,000	-56.5	-55	2	4	4	-54	3	5	6	-55	1	2	3	-54	2	4	4	-54	2	4	5	3	3	2	2
30,000	-44.5	-35	10	11	12	-33	11	13	13	-33	12	13	13	-32	13	14	15	-33	11	13	14	2	2	2	2
20,000	-21.2	-7	14	15	16	-7	14	16	16	-7	14	15	16	-6	15	16	17	-7	14	16	16	2	2	1	2
10,000	-4.6	8	12	14	14	8	11	14	15	9	14	15	15	9	14	15	16	9	13	15	15	2	2	1	2
BELEM TO KINGSTON																									2035 N.MI.
53,000	-56.5	-78	-21	-20	-19	-78	-21	-19	-18	-73	-16	-15	-14	-77	-21	-39	-18	-76	-20	-17	-16	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	4	6	7	-55	2	3	4	-54	3	4	5	-54	3	5	6	3	3	2	2
30,000	-44.5	-33	11	13	13	-31	14	15	16	-32	12	13	14	-31	14	15	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-6	16	17	17	-5	16	17	18	-7	14	15	16	-6	16	17	17	-6	15	17	17	2	2	1	1
10,000	-4.6	9	14	15	16	9	14	15	16	9	14	15	15	10	15	16	16	9	14	15	16	2	2	2	2
BELEM TO LA PAZ																									1476 N.MI.
53,000	-56.5	-77	-21	-18	-17	-77	-20	-18	-17	-71	-14	-12	-11	-74	-17	-15	-14	-75	-18	-15	-13	3	3	4	3
40,000	-56.5	-53	3	5	6	-52	5	7	8	-53	4	5	6	-54	3	4	5	-53	4	6	7	3	4	3	2
30,000	-44.5	-32	13	14	15	-30	14	16	17	-32	12	14	15	-31	14	15	16	-31	13	15	16	2	3	2	2
20,000	-21.2	-5	17	18	19	-4	17	18	19	-9	13	14	15	-6	15	17	17	-6	15	17	18	2	2	2	2
10,000	-4.5	10	15	16	16	10	14	16	16	7	12	13	13	10	14	16	16	9	14	15	16	2	2	2	2
BELEM TO LIMA																									1816 N.MI.
53,000	-56.5	-77	-21	-19	-18	-77	-20	-18	-17	-72	-15	-13	-12	-74	-18	-16	-15	-75	-19	-16	-14	3	3	3	3
40,000	-55.5	-54	3	5	6	-52	5	7	8	-53	3	5	6	-54	3	4	5	-53	3	6	7	3	3	2	2
10,000	-44.5	-32	13	14	15	-30	14	16	17	-12	13	14	15	-30	14	16	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-4	17	18	19	-4	17	18	19	-8	13	14	15	-6	15	17	17	-6	16	17	18	2	2	2	2
10,000	-4.6	10	15	16	16	10	14	16	16	8	13	14	15	10	14	16	16	9	14	15	16	2	2	2	2
BELEM TO LISBON																									3240 N.MI.
53,000	-56.5	-72	-16	-13	-12	-71	-15	-13	-12	-71	-14	-12	-11	-73	-17	-15	-14	-72	-15	-13	-12	3	3	3	3
40,000	-56.5	-56	1	3	5	-55	1	4	5	-53	3	4	5	-54	2	4	5	-55	2	4	5	4	4	2	2
30,000	-44.5	-38	6	8	9	-35	9	11	11	-34	11	12	13	-34	11	12	13	-35	9	11	12	2	2	2	2
20,000	-21.2	-11	10	12	13	-10	11	11	14	-7	14	15	16	-8	14	15	15	-9	12	14	15	2	2	2	2
10,000	-4.6	5	10	12	12	6	10	12	13	9	14	15	15	8	12	14	14	7	12	13	14	2	2	2	2
BELEM TO LONDON																									3994 N.MI.
53,000	-56.5	-69	-12	-10	-9	-68	-11	-9	-8	-66	-10	-8	-7	-70	-13	-11	-10	-68	-12	-9	-8	4	3	3	3
40,000	-56.5	-56	0	3	4	-56	0	3	5	-54	3	5	6	-55	2	4	5	-55	1	4	5	4	4	3	3
30,000	-44.5	-40	4	6	7	-38	6	8	9	-35	9	11	12	-36	9	10	11	-37	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	11	-12	9	11	12	-9	12	14	15	-10	11	13	14	-11	10	12	13	3	3	2	2
10,000	-4.6	2	7	9	10	3	6	10	11	7	12	13	14	6	10	12	13	5	9	11	12	3	3	2	2
BELEM TO MADRID																									3508 N.MI.
53,000	-56.5	-71	-15	-13	-11	-71	-14	-12	-11	-70	-14	-12	-11	-72	-16	-14	-13	-71	-15	-12	-11	3	3	3	3
40,000	-56.5	-56	1	3	5	-55	1	4	5	-53	3	5	5	-54	2	4	5	-55	2	4	5	4	4	2	2
30,000	-44.5	-39	6	8	8	-36	9	10	11	-34	10	12	13	-34	10	12	13	-36	9	11	11	2	2	2	2
20,000	-21.2	-12	10	11	12	-10	11	13	13	-8	14	15	15	-8	13	14	15	-9	12	13	14	2	2	2	2
10,000	-4.6	5	9	11	12	5	10	12	12	9	14	15	16	7	12	13	14	7	11	13	14	2	2	2	2
BELEM TO MANAOS																									699 N.MI.
53,000	-56.5	-78	-22	-20	-18	-77	-21	-19	-18	-72	-16	-13	-12	-76	-19	-18	-17	-76	-19	-16	-15	3	3	3	3
40,000	-56.5	-54	2	4	5	-52	5	7	8	-54	3	4	5	-54	3	4	5	-53	3	6	7	3	3	2	2
30,000	-44.5	-32	13	14	14	-30	15	17	17	-32	13	14	15	-30	15	16	17	-31	14	16	17	2	2	2	2
20,000	-21.2	-4	17	18	19	-4	17	18	19	-7	14	15	15	-5	16	17	17	-5	16	17	18	2	2	2	2
10,000	-4.6	10	15	16	17	10	15	16	17	9	13	14	15	10	15	16	17	10	14	16	16	2	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BELEM TO MEXICO CITY																									3250 N.MI.
55,000	-56.5	-78	-21	-19	-18	-77	-20	-19	-18	-73	-17	-15	-14	-78	-21	-19	-18	-76	-20	-18	-16	3	3	2	3
40,000	-56.5	-54	2	4	5	-53	4	6	6	-55	1	3	3	-54	3	4	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-34	11	12	13	-31	13	14	15	-32	12	13	14	-31	14	15	15	-32	12	14	14	2	2	2	2
20,000	-21.2	-6	15	17	17	-5	16	17	18	-7	14	15	16	-6	16	17	17	-6	15	17	17	2	2	1	1
10,000	- 4.6	9	14	15	16	10	14	16	16	9	14	15	15	10	15	16	16	10	14	15	16	2	2	1	1
BELEM TO MIAMI																									2462 N.MI.
55,000	-56.5	-77	-21	-19	-18	-77	-20	-18	-17	-72	-16	-14	-13	-77	-20	-18	-17	-76	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	2	4	5	-53	3	5	6	-55	1	3	3	-54	3	4	5	-54	2	4	5	3	3	2	2
30,000	-44.5	-34	10	12	12	-32	12	14	14	-33	12	13	13	-31	13	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-7	14	16	16	-6	15	16	17	-7	14	15	16	-6	16	17	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	13	15	15	9	14	14	15	9	14	15	14	9	13	15	15	2	2	1	2
BELEM TO MUNICH																									4302 N.MI.
55,000	-56.5	-69	-12	-10	-8	-68	-11	-9	-8	-67	-11	-8	-7	-70	-13	-11	-10	-68	-12	-9	-8	4	3	3	3
40,000	-56.5	-56	0	3	4	-56	1	3	5	-53	3	5	6	-55	2	4	5	-55	1	4	5	4	4	3	3
30,000	-44.5	-41	4	6	7	-38	6	8	9	-35	10	11	12	-36	9	10	11	-37	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	10	-12	9	11	12	-8	13	14	15	-10	12	13	14	-11	10	12	13	3	3	2	2
10,000	- 4.6	2	7	9	10	4	8	10	11	9	13	14	15	6	10	12	13	5	10	12	13	3	3	2	2
BELEM TO NATAL																									837 N.MI.
55,000	-56.5	-78	-21	-19	-13	-78	-21	-20	-19	-72	-15	-13	-12	-76	-19	-17	-16	-76	-19	-16	-15	4	3	3	3
40,000	-56.5	-54	2	4	5	-52	4	7	8	-53	3	5	6	-53	3	5	5	-53	3	6	7	3	4	2	2
30,000	-44.5	-32	13	14	14	-30	15	14	17	-32	13	14	15	-30	15	16	17	-31	14	15	16	2	2	2	2
20,000	-21.2	-5	17	18	19	-4	17	18	19	-7	14	15	16	-6	16	17	18	-5	16	17	18	2	2	2	2
10,000	- 4.6	10	15	16	16	10	15	16	16	8	13	14	15	10	15	16	17	10	14	16	16	2	2	2	2
BELEM TO NEW ORLEANS																									3026 N.MI.
55,000	-56.5	-76	-20	-18	-17	-76	-19	-17	-16	-72	-16	-14	-13	-77	-20	-18	-17	-75	-19	-16	-15	3	3	2	3
40,000	-56.5	-55	2	4	5	-54	3	5	6	-55	1	2	3	-54	2	4	4	-54	2	4	5	3	3	2	2
30,000	-44.5	-35	10	11	12	-33	11	13	13	-33	12	13	13	-32	13	14	15	-33	11	13	14	2	2	2	2
20,000	-21.2	-7	14	15	16	-7	14	16	16	-7	14	15	16	-6	15	16	17	-7	14	16	16	2	2	1	2
10,000	- 4.6	8	12	14	14	8	13	14	15	9	14	14	15	9	14	15	16	9	13	14	15	2	2	1	2
BELEM TO NEW YORK																									2876 N.MI.
55,000	-56.5	-73	-17	-15	-14	-72	-16	-14	-13	-70	-13	-12	-11	-74	-17	-15	-13	-72	-16	-14	-12	3	3	3	3
40,000	-56.5	-55	1	4	5	-55	1	4	5	-55	1	3	3	-54	2	4	5	-55	1	3	4	3	3	2	2
30,000	-44.5	-37	7	9	10	-35	9	11	11	-34	11	12	13	-33	11	13	13	-35	10	11	12	2	2	2	2
20,000	-21.2	-10	11	13	14	-9	12	14	15	-7	14	15	16	-7	14	15	16	-8	13	14	15	2	2	2	2
10,000	- 4.6	5	10	11	12	6	10	12	13	8	13	14	14	8	12	14	14	7	11	13	13	3	2	2	2
BELEM TO PANAMA																									1952 N.MI.
55,000	-56.5	-78	-22	-20	-19	-78	-21	-19	-18	-73	-16	-15	-14	-77	-21	-19	-18	-77	-20	-17	-16	3	3	3	3
40,000	-55.5	-54	3	4	5	-52	5	7	8	-55	2	3	4	-54	3	4	5	-53	3	5	6	2	3	2	2
30,000	-44.5	-32	12	13	14	-30	15	16	17	-32	13	14	14	-30	14	15	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	17	18	19	-4	17	18	19	-7	14	15	16	-5	15	17	17	-5	16	17	18	2	2	1	1
10,000	- 4.6	10	14	16	16	10	15	16	17	9	14	15	15	10	15	16	17	10	14	16	16	2	2	2	2
BELEM TO QUITO																									1802 N.MI.
55,000	-56.5	-79	-23	-21	-20	-77	-21	-19	-18	-73	-16	-14	-13	-76	-20	-18	-17	-76	-20	-17	-16	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-54	2	4	5	-54	3	4	5	-53	3	5	7	3	3	2	2
30,000	-44.5	-32	13	14	14	-30	15	16	17	-32	13	14	15	-30	15	16	17	-31	14	15	16	2	2	2	2
20,000	-21.2	-4	17	18	19	-4	17	18	19	-7	14	15	15	-6	16	17	17	-5	16	17	18	2	2	2	2
10,000	- 4.6	10	15	16	17	10	15	16	17	9	13	15	15	10	15	16	17	10	15	16	16	2	2	2	2
BELEM TO RECIFE																									905 N.MI.
55,000	-56.5	-78	-21	-19	-18	-78	-21	-19	-18	-71	-15	-13	-12	-75	-19	-17	-16	-76	-19	-16	-14	4	3	3	3
40,000	-56.5	-54	2	4	5	-52	4	7	8	-53	3	5	6	-53	3	5	5	-53	3	6	7	3	4	2	2
30,000	-44.5	-32	13	14	15	-30	15	15	17	-31	13	14	15	-30	14	16	17	-31	14	15	16	2	2	2	2
20,000	-21.2	-5	17	18	19	-4	17	18	19	-7	14	15	16	-6	16	17	18	-5	16	17	18	2	2	2	
10,000	- 4.6	10	15	16	16	10	15	16	17	8	13	14	15	10	15	16	17	10	14	16	16	2	2	2	2
BELEM TO RIO DE JANEIRO																									1321 N.MI.
55,000	-56.5	-77	-20	-18	-16	-76	-20	-17	-16	-70	-13	-11	-9	-72	-16	-14	-13	-74	-17	-14	-12	4	3	4	3
40,000	-56.5	-53	3	6	7	-52	5	7	8	-52	4	6	7	-53	3	5	6	-53	4	6	8	3	4	3	3
30,000	-44.5	-32	13	14	15	-31	13	15	16	-33	12	14	14	-31	13	15	16	-32	13	15	16	2	3	2	3
20,000	-21.2	-5	16	18	19	-5	16	17	18	-9	13	14	15	-7	15	16	17	-6	15	17	18	2	2	2	2
10,000	- 4.6	10	14	16	16	10	14	16	17	7	11	13	13	10	14	16	16	9	14	15	16	2	2	2	2
BELEM TO SAN JUAN																									1576 N.MI.
55,000	-56.5	-78	-21	-20	-19	-78	-21	-20	-19	-73	-16	-14	-14	-77	-21	-19	-18	-76	-20	-17	-16	3	3	3	3
40,000	-56.5	-54	3	4	5	-53	4	6	7	-55	2	3	4	-54	3	4	5	-54	3	5	6	3	3	2	2
30,000	-44.5	-33	11	13	13	-31	14	15	15	-33	12	13	14	-31	14	15	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-6	15	16	17	-5	16	17	18	-7	14	15	16	-6	16	17	17	-6	15	17	17	2	2	1	1
10,000	- 4.6	9	14	15	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	16	2	2	2	2
BELEM TO SANTA MARIA																									2641 N.MI.
55,000	-56.5	-73	-17	-15	-14	-73	-16	-14	-13	-71	-14	-13	-12	-74	-18	-16	-15	-73	-16	-14	-13	3	3	3	3
40,000	-56.5	-56	1	3	5	-55	1	4	5	-54	3	4	5	-54	2	4	5	-55	2	3	4	3	4	2	2
30,000	-44.5	-37	7	9	10	-35	10	11	12	-34	11	12	13	-33	11	13	14	-35	10	12	12	2	2	2	2
20,000	-21.2	-10	11	13	13	-9	12	14	15	-7	14	15	16	-7	14	15	16	-8	13	14	15	2	2	2	2
10,000	- 4.6	6	11	12	13	6	11	12	13	9	13	14	15	8	13	14	15	7	12	13	14	2	2	2	2
BELEM TO SANTIAGO																									2297 N.MI.
55,000	-56.5	-74	-17	-15	-13	-73	-17	-14	-13	-67	-11	-8	-7	-69	-12	-10	-9	-71	-14	-11	-9	4	3	4	3
40,000	-56.5	-53	4	6	7	-53	4	6	8	-52	4	6	7	-54	3	5	6	-53	4	6	7	3	4	3	3
30,000	-44.5	-33	11	13	14	-33	11	13	14	-36	9	11	12	-33	11	13	14	-34	11	13	14	3	3	3	3
20,000	-21.2	-6	15	17	18	-7	14	16	17	-12	9	11	12	-8	14	15	16	-8	13	15	16	2	2	2	2
10,000	- 4.6	9	14	15	16	8	13	14	15	4	9	11	11	8	12	14	14	7	12	14	15	2	2	2	2
BELEM TO SAO PAULO																									1338 N.MI.
55,000	-56.5	-77	-20	-18	-16	-76	-19	-17	-16	-70	-13	-11	-9	-72	-15	-13	-12	-74	-17	-14	-12	4	3	4	3
40,000	-56.5	-53	3	6	7	-52	5	7	9	-52	4	6	7	-54	3	5	6	-53	4	6	8	3	4	3	3
30,000	-44.5	-32	13	14	15	-31	13	15	16	-33	12	13	14	-31	13	15	16	-32	13	15	16	2	3	3	3
20,000	-21.2	-5	16	18	19	-6	16	17	18	-9	12	14	15	-7	15	16	17	-6	15	17	18	2	2	2	2
10,000	- 4.6	10	14	16	16	10	14	16	16	7	11	13	13	10	14	16	16	9	13	15	16	2	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																				STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
BELFAST TO BRUSSELS																						446 N.MI.			
55,000	-56.5	-57	-1	2	4	-53	3	6	7	-49	7	10	11	-57	-1	2	4	-54	2	6	7	5	4	4	4
40,000	-56.5	-58	-1	3	5	-55	2	6	9	-50	6	10	12	-56	0	4	6	-55	2	6	9	6	7	6	5
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-41	3	6	7	-44	0	3	4	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-23	-2	2	3	-15	6	9	10	-19	2	6	7	-21	0	4	6	6	5	3	5
10,000	- 4.6	-10	-5	-2	0	-7	-2	1	2	1	5	7	9	-3	2	5	6	-5	-0	3	5	5	4	3	5
BELFAST TO COLOGNE																						532 N.MI.			
55,000	-56.5	-57	-1	2	4	-53	3	6	7	-49	7	10	11	-57	-1	2	4	-54	2	6	7	5	4	4	4
40,000	-56.5	-58	-2	3	5	-55	2	6	9	-50	6	10	12	-56	0	4	6	-55	2	6	9	6	7	6	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	1	-41	3	6	7	-44	0	3	4	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-23	-2	1	3	-15	6	9	10	-19	2	6	7	-21	0	4	6	6	5	3	5
10,000	- 4.6	-10	-5	-2	0	-7	-2	1	2	1	5	7	9	-3	1	4	6	-5	-0	3	5	5	4	3	5
BELFAST TO COPENHAGEN																						646 N.MI.			
55,000	-56.5	-58	-1	2	4	-53	4	6	8	-48	9	11	12	-57	-0	3	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-58	-2	2	5	-54	3	7	10	-50	7	11	13	-56	1	4	6	-54	2	7	10	6	7	6	6
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-42	3	5	7	-45	-1	2	4	-47	-2	1	3	4	4	4	4
20,000	-21.2	-28	-7	-3	-0	-24	-3	0	2	-16	6	8	9	-20	1	5	7	-22	-1	3	5	6	5	3	5
10,000	- 4.6	-11	-7	-3	-1	-8	-3	-0	1	-0	4	6	8	-5	-0	3	5	-6	-2	2	4	5	5	3	5
BELFAST TO DUSSELDORF																						507 N.MI.			
55,000	-56.5	-57	-1	2	4	-53	3	6	7	-49	7	10	11	-57	-1	2	4	-54	2	6	8	5	4	4	4
40,000	-56.5	-58	-2	3	5	-55	2	7	9	-50	6	10	12	-56	0	4	6	-55	2	6	9	6	7	6	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	1	-41	3	6	7	-44	0	3	4	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-23	-2	1	3	-15	6	9	10	-19	2	6	7	-21	0	4	6	6	5	3	5
10,000	- 4.6	-10	-5	-2	0	-7	-2	1	2	1	5	7	9	-3	1	4	6	-5	-0	3	5	5	4	3	5
BELFAST TO FRANKFURT																						604 N.MI.			
55,000	-56.5	-57	-1	3	4	-53	3	6	7	-50	7	9	11	-57	-1	2	3	-54	2	6	7	5	4	4	4
40,000	-56.5	-58	-2	3	5	-55	2	6	9	-51	6	10	12	-56	0	4	6	-55	2	6	9	6	7	6	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	1	-41	3	6	7	-44	0	3	4	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-23	-2	2	3	-15	6	9	10	-19	2	6	8	-21	0	4	6	6	5	3	5
10,000	- 4.6	-10	-5	-2	-0	-7	-2	1	2	1	5	8	9	-3	2	5	6	-5	-0	3	5	5	4	3	5
BELFAST TO GENEVA																						686 N.MI.			
55,000	-56.5	-57	-1	3	4	-54	3	5	7	-51	6	8	9	-58	-1	1	3	-55	1	5	7	5	4	4	4
40,000	-56.5	-58	-2	3	5	-56	1	5	8	-51	5	9	11	-56	0	4	6	-55	1	6	8	6	7	5	5
30,000	-44.5	-50	-5	-3	-1	-47	-3	-0	1	-40	4	7	8	-44	1	3	5	-45	-1	3	4	4	4	4	4
20,000	-21.2	-26	-4	-1	1	-22	-1	2	4	-14	7	9	11	-14	3	6	8	-20	1	5	7	6	5	3	5
10,000	- 4.6	-9	-4	-1	1	-6	-1	2	3	2	6	8	10	-2	2	5	7	-4	1	4	6	5	4	3	4
BELFAST TO GLASGOW																						97 N.MI.			
55,000	-56.5	-58	-1	2	4	-52	4	7	8	-48	8	11	12	-57	-0	3	5	-54	3	6	8	5	4	4	4
40,000	-56.5	-58	-1	4	6	-53	3	8	10	-50	7	11	13	-56	1	5	7	-54	2	7	10	7	7	6	6
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-42	3	5	7	-45	-0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-24	-3	1	3	-16	5	8	9	-20	1	5	7	-21	-0	3	5	6	5	4	5
10,000	- 4.6	-10	-5	-2	-0	-8	-3	-0	1	-1	4	6	7	-4	1	4	6	-6	-1	2	4	5	4	3	5
BELFAST TO HAMBURG																						569 N.MI.			
55,000	-56.5	-57	-1	2	4	-53	4	6	8	-48	8	10	12	-57	-0	2	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-58	-2	3	5	-54	2	7	10	-50	7	10	13	-56	0	4	6	-55	2	7	9	6	7	6	6
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	0	-42	3	5	7	-45	-0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-24	-3	1	3	-15	6	8	9	-19	2	5	7	-21	-0	3	5	6	5	3	5
10,000	- 4.6	-11	-6	-3	-1	-8	-3	0	2	0	5	7	8	-4	0	4	5	-6	-1	2	4	5	4	3	5
BELFAST TO HELSINKI																						1049 N.MI.			
55,000	-56.5	-58	-1	2	4	-52	4	7	8	-47	10	12	13	-56	1	3	5	-55	3	7	8	5	4	3	4
40,000	-56.5	-59	-2	2	4	-53	3	8	10	-49	7	11	13	-55	1	5	7	-54	2	7	10	6	7	6	6
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-42	2	5	6	-46	-2	1	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-30	-8	-4	-2	-25	-4	-1	1	-16	5	7	9	-21	0	4	6	-23	-2	2	4	6	5	4	5
10,000	- 4.6	-14	-9	-5	-3	-10	-5	-2	0	-1	4	6	7	-6	-1	2	4	-7	-3	1	3	6	5	3	5
BELFAST TO ISTANBUL																						1606 N.MI.			
55,000	-56.5	-56	0	3	5	-54	2	5	6	-52	5	7	8	-58	-2	1	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	1	5	7	-50	6	9	11	-56	0	3	5	-55	2	6	8	5	6	5	4
30,000	-44.5	-51	-6	-4	-2	-47	-3	-0	1	-40	5	7	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-5	-2	0	-22	-1	2	4	-13	8	10	11	-18	3	6	8	-20	1	5	7	5	5	3	4
10,000	- 4.6	-11	-7	-3	-1	-6	-1	2	3	2	7	9	10	-2	2	5	7	-4	0	4	6	5	4	3	4
BELFAST TO KEFLAVIK																						750 N.MI.			
55,000	-56.5	-57	-1	3	5	-51	6	9	10	-47	10	12	13	-55	2	4	6	-52	4	8	9	5	4	3	4
40,000	-56.5	-56	0	5	7	-51	6	10	13	-48	8	12	14	-54	3	7	9	-52	4	9	11	7	7	6	6
30,000	-44.5	-51	-7	-4	-3	-48	-3	-1	1	-43	1	4	5	-46	-2	2	3	-47	-3	1	3	4	4	4	5
20,000	-21.2	-28	-7	-3	-1	-26	-5	-1	0	-18	3	6	7	-22	-1	3	5	-24	-2	1	3	6	5	4	6
10,000	- 4.6	-12	-8	-5	-3	-10	-6	-3	-1	-2	2	4	6	-6	-2	2	3	-8	-3	0	2	5	5	3	5
BELFAST TO LISBON																						960 N.MI.			
55,000	-56.5	-58	-2	1	3	-56	1	4	5	-54	2	5	6	-59	-3	-0	1	-57	-0	3	4	5	4	4	4
40,000	-56.5	-58	-2	3	5	-57	-0	4	6	-53	4	7	9	-56	0	4	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-48	-4	-1	0	-46	-1	1	3	-39	6	8	9	-43	2	5	6	-44	1	4	6	4	4	4	4
20,000	-21.2	-23	-2	2	4	-21	1	4	5	-13	8	11	12	-17	5	8	9	-18	3	6	8	5	4	3	4
10,000	- 4.6	-6	-2	1	3	-4	1	4	5	4	8	10	11	-1	4	6	8	-2	3	6	8	5	4	3	4
BELFAST TO LONDON																						280 N.MI.			
55,000	-56.5	-58	-1	2	4	-53	3	6	7	-49	7	10	11	-57	-1	2	4	-54	2	6	8	5	4	4	4
40,000	-56.5	-58	-1	3	5	-55	2	7	9	-50	6	10	12	-56	1	4	6	-55	2	7	9	7	7	6	6
30,000	-44.5	-50	-5	-3	-2	-47	-3	-0	1	-41	3	6	7	-44	0	3	4	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-23	-2	2	3	-15	6	9	10	-17	2	6	7	-21	1	4	6	6	5	3	5
10,000	- 4.6	-9	-5	-1	1	-7	-2	1	2	0	5	7	8	-3	2	5	6	-5	-0	3	5	5	4	3	4
BELFAST TO MADRID																						856 N.MI.			
55,000	-56.5	-58	-2	2	3	-55	1	4	6	-54	3	5	7	-59	-2	0	2	-56	0	3	5	5	4	4	4
40,000	-56.5	-58	-2	3	5	-57	-0	4	6	-52	4	7	9	-56	0	4	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-49	-4	-2	-0	-46	-2	1	2	-39	5	8	9	-43	2	4	6	-44	0	4	5	4	4	4	4
20,000	-21.2	-24	-2	1	3	-21	0	3	5	-13	8	10	12	-17	4	7	9	-19	3	6	8	5	4	3	4
10,000	- 4.6	-7	-2	1	3	-4	0	3	5	3	8	10	11	-1	3	5	8	-2	2	6	7	5	4	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BELFAST TO MONTREAL																									2557 N.MI.
55,000	-56.5	-56	0	3	5	-52	5	7	9	-50	6	9	10	-55	2	4	6	-53	3	6	8	4	4	4	4
40,000	-56.5	-53	3	7	10	-52	4	9	11	-51	6	9	11	-53	4	8	10	-52	4	8	10	7	7	5	6
30,000	-44.5	-50	-6	-3	-1	-48	-3	-1	1	-42	3	5	7	-45	-1	2	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-30	-8	-4	-1	-26	-5	-1	1	-15	6	9	10	-21	0	4	6	-23	-2	3	5	7	6	4	6
10,000	- 4.6	-16	-11	-7	-4	-10	-6	-2	-0	-1	4	6	7	-6	-2	2	4	-8	-4	0	2	7	5	3	6
BELFAST TO MOSCOW																									1465 N.MI.
55,000	-56.5	-57	-1	3	4	-52	4	7	8	-47	9	12	13	-56	1	3	5	-53	3	7	9	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	3	7	9	-49	7	11	13	-55	1	5	7	-54	2	7	9	6	6	5	5
30,000	-44.5	-52	-8	-5	-4	-49	-4	-2	-0	-42	3	6	7	-46	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-30	-8	-4	-2	-25	-4	0	2	-16	6	8	9	-21	1	4	6	-23	-1	2	5	6	5	4	5
10,000	- 4.6	-14	-9	-6	-3	-9	-4	-1	1	-0	4	6	7	-6	-1	2	4	-7	-3	1	3	6	5	3	5
BELFAST TO MUNICH																									771 N.MI.
55,000	-56.5	-57	-0	3	5	-54	3	5	7	-50	6	9	10	-58	-1	2	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	5	-55	1	6	8	-51	6	9	11	-56	0	4	6	-55	1	6	8	6	7	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	1	-41	4	6	8	-44	0	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-23	-2	2	3	-14	7	9	10	-19	3	6	8	-21	1	4	6	6	5	3	5
10,000	- 4.6	-10	-6	-2	-0	-7	-2	1	3	1	6	8	9	-3	2	5	7	-5	-0	3	5	5	4	3	5
BELFAST TO OSLO																									627 N.MI.
55,000	-56.5	-58	-2	2	4	-52	4	7	8	-47	9	11	13	-56	0	3	5	-53	3	7	8	5	4	3	4
40,000	-56.5	-58	-2	2	5	-53	3	8	11	-49	8	12	14	-56	1	5	7	-54	3	8	10	6	7	6	6
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	-0	-42	2	5	6	-46	-1	2	3	-47	-2	1	3	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-25	-4	-0	1	-16	5	7	9	-21	0	4	6	-23	-1	2	4	6	5	4	5
10,000	- 4.6	-12	-7	-4	-2	-9	-4	-1	0	-1	4	6	7	-5	-0	3	4	-7	-2	1	3	5	5	3	5
BELFAST TO PARIS																									466 N.MI.
55,000	-56.5	-57	-1	2	4	-54	3	5	7	-50	6	9	10	-58	-1	2	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-1	3	5	-55	1	6	9	-51	6	9	11	-56	0	4	6	-55	1	6	9	6	7	6	5
30,000	-44.5	-50	-5	-3	-1	-47	-3	-0	1	-41	4	6	8	-44	0	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-4	-1	2	-23	-1	2	4	-15	7	9	10	-19	3	6	8	-20	1	4	6	6	5	3	5
10,000	- 4.6	-9	-5	-1	1	-5	-2	1	3	1	6	8	9	-3	2	5	7	-4	0	4	5	5	4	3	4
BELFAST TO PRAGUE																									793 N.MI.
55,000	-56.5	-57	-0	3	5	-53	3	6	7	-49	7	10	11	-57	-1	2	3	-54	2	6	7	5	4	4	4
40,000	-56.5	-58	-2	2	5	-55	2	6	8	-50	6	10	12	-56	0	4	6	-55	2	6	9	6	7	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	1	-41	3	6	7	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-23	-2	1	3	-15	6	9	10	-19	2	6	7	-21	0	4	6	6	5	3	5
10,000	- 4.6	-11	-6	-3	-1	-7	-2	1	2	1	5	8	9	-3	1	4	6	-5	-1	3	5	5	4	3	5
BELFAST TO ROME																									1068 N.MI.
55,000	-56.5	-57	-0	3	5	-54	2	5	6	-52	4	7	8	-58	-2	1	2	-56	1	4	6	5	4	4	4
40,000	-56.5	-58	-2	2	5	-56	0	4	7	-52	5	8	10	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-5	-3	-1	-47	-3	0	1	-40	5	7	7	-43	1	4	5	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-4	-1	1	-22	-0	3	4	-13	8	10	11	-17	4	7	8	-19	2	5	7	5	4	3	4
10,000	- 4.6	-9	-4	-1	1	-5	-1	2	3	3	7	9	11	-2	3	6	7	-3	1	5	7	5	4	3	4
BELFAST TO SHANNON																									152 N.MI.
55,000	-56.5	-58	-1	2	4	-53	4	6	8	-49	7	10	11	-57	-0	3	4	-54	2	6	8	5	4	4	4
40,000	-56.5	-57	-1	4	6	-54	2	7	10	-50	6	10	12	-56	1	5	7	-54	2	7	9	7	7	6	6
30,000	-44.5	-50	-5	-3	-1	-47	-2	0	1	-41	3	6	7	-44	0	3	4	-46	-1	2	4	4	4	4	4
20,000	-21.2	-25	-4	-0	2	-23	-2	1	3	-15	6	8	10	-19	2	5	7	-21	0	4	6	6	5	4	5
10,000	- 4.6	-9	-5	-1	0	-7	-2	1	2	0	5	7	8	-3	1	4	6	-5	-0	3	5	5	4	3	4
BELFAST TO STOCKHOLM																									834 N.MI.
55,000	-56.5	-58	-1	2	4	-52	4	7	8	-47	9	11	13	-56	0	3	5	-53	3	7	8	5	4	3	4
40,000	-56.5	-59	-2	2	4	-53	3	8	10	-49	7	11	13	-56	1	5	7	-54	2	7	10	6	7	6	6
30,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-0	-42	2	5	6	-46	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-25	-4	-0	1	-16	5	7	9	-21	0	4	6	-23	-2	2	4	6	5	4	5
10,000	- 4.6	-13	-8	-4	-3	-9	-4	-1	0	-1	4	6	7	-5	-1	2	4	-7	-2	1	3	5	5	3	5
BELFAST TO VIENNA																									931 N.MI.
55,000	-56.5	-57	-0	3	5	-54	3	6	7	-50	7	9	10	-57	-1	2	3	-54	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-55	1	6	8	-51	6	9	11	-56	0	4	6	-55	1	6	8	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	1	-41	4	6	8	-44	0	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-23	-2	1	3	-14	7	9	10	-19	3	6	8	-21	0	4	6	6	5	3	5
10,000	- 4.6	-11	-6	-3	-1	-7	-2	1	2	1	6	8	9	-3	1	5	6	-5	-0	3	5	5	4	3	5
BELFAST TO WARSAW																									975 N.MI.
55,000	-56.5	-57	-1	3	5	-53	4	6	7	-48	8	10	12	-57	-0	2	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-58	-2	2	4	-54	2	7	9	-50	6	10	12	-56	0	4	6	-55	2	6	9	6	6	5	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-41	3	6	7	-45	-0	2	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-24	-3	1	2	-15	6	8	10	-19	2	5	7	-22	-0	3	5	6	5	3	5
10,000	- 4.6	-12	-7	-4	-2	-8	-3	-0	2	0	5	7	8	-5	-0	3	5	-6	-1	2	4	6	5	3	5
BELFAST TO ZURICH																									700 N.MI.
55,000	-56.5	-57	-1	3	4	-54	3	5	7	-50	6	9	10	-58	-1	2	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	3	5	-55	1	6	8	-51	5	9	11	-56	0	4	6	-55	1	6	8	6	7	5	5
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-41	4	6	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-14	7	9	10	-18	3	6	8	-20	1	4	6	6	5	3	5
10,000	- 4.6	-10	-5	-1	0	-6	-2	1	3	1	6	8	9	-3	2	5	7	-4	0	4	6	5	4	3	4
BELGRADE TO LJUBLJANA																									257 N.MI.
55,000	-56.5	-56	1	4	6	-55	2	4	6	-53	3	6	7	-59	-2	0	1	-56	1	4	5	5	4	3	4
40,000	-56.5	-58	-1	2	4	-57	-0	3	5	-51	6	8	10	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-47	-3	-0	1	-39	6	8	10	-43	2	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-27	-5	-2	-0	-21	-0	3	4	-12	9	11	12	-17	4	7	8	-19	2	5	7	5	4	3	4
10,000	- 4.6	-11	-7	-3	-2	-6	-1	2	4	3	8	10	11	-2	3	6	7	-4	1	4	6	5	4	3	4
BELGRADE TO LONDON																									921 N.MI.
55,000	-56.5	-56	0	4	5	-54	2	5	6	-52	5	7	8	-58	-2	1	2	-55	1	4	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	0	4	6	-51	5	8	10	-56	0	3	5	-56	1	5	7	5	6	5	4
30,000	-44.5	-51	-6	-4	-2	-48	-3	-0	1	-40	5	7	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-5	-2	0	-22	-1	2	4	-13	8	10	11	-18	4	7	8	-20	1	5	7	5	4	3	4
10,000	- 4.6	-11	-6	-3	-1	-6	-1	2	3	2	7	9	10	-2	3	6	7	-4	0	4	6	5	4	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BELGRADE TO PRAGUE																									402 N.MI.
53,000	-56.5	-56	1	4	6	-54	2	5	6	-52	5	7	8	-58	-2	1	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	0	4	5	-51	6	9	10	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-48	-3	-1	1	-39	5	8	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	4	-13	8	10	11	-17	4	7	8	-20	1	5	7	5	4	3	4
10,000	- 4.6	-12	-8	-4	-2	-6	-2	1	3	2	7	9	10	-2	2	5	7	-5	0	4	6	5	5	3	4
BELGRADE TO SARAJEVO																									107 N.MI.
53,000	-56.5	-56	1	4	6	-55	1	4	5	-54	2	5	6	-59	-3	-0	1	-56	0	3	5	5	4	3	4
40,000	-56.5	-57	-1	2	4	-57	-0	3	5	-50	7	9	11	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-3	-47	-3	-0	1	-38	6	9	10	-43	2	4	6	-45	-0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-21	0	3	4	-12	9	11	12	-17	5	7	8	-19	2	6	7	5	4	3	4
10,000	- 4.6	-11	-7	-3	-2	-5	-1	2	4	4	8	10	11	-1	3	6	7	-4	1	5	7	5	4	3	4
BELGRADE TO SKOPJL																									176 N.MI.
53,000	-56.5	-56	1	4	5	-55	1	4	5	-55	1	3	4	-59	-3	-1	1	-57	-0	3	4	5	4	3	4
40,000	-56.5	-57	-1	3	4	-57	-0	3	5	-49	7	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-3	-47	-2	0	1	-38	7	9	11	-42	2	5	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-21	0	3	5	-12	10	12	13	-16	5	7	9	-19	3	6	8	5	4	3	4
10,000	- 4.6	-11	-6	-3	-2	-5	-0	3	4	4	9	11	12	-1	4	6	8	-3	1	5	7	5	4	3	4
BELGRADE TO SOFIA																									182 N.MI.
53,000	-56.5	-56	1	4	5	-55	1	4	5	-55	2	4	5	-59	-3	-0	1	-56	0	3	4	5	4	3	4
40,000	-56.5	-57	-1	2	4	-57	-0	3	5	-49	7	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-47	-2	0	1	-38	7	9	11	-42	2	4	6	-45	-0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-21	0	3	5	-12	10	11	12	-16	5	7	8	-19	2	6	8	5	4	3	4
10,000	- 4.6	-11	-7	-3	-2	-5	-0	3	4	4	8	11	12	-1	4	6	8	-3	1	5	7	5	4	3	4
BELGRADE TO ZURICH																									517 N.MI.
53,000	-56.5	-56	1	4	6	-55	2	4	6	-53	4	6	7	-59	-2	0	2	-56	1	4	5	5	4	3	4
40,000	-56.5	-58	-1	2	4	-57	-0	3	5	-51	5	8	9	-56	0	3	4	-56	1	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-47	-3	-0	1	-39	5	8	9	-43	2	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-27	-5	-2	0	-22	-0	3	4	-13	9	11	12	-17	4	7	8	-19	2	5	7	5	4	3	4
10,000	- 4.6	-11	-6	-3	-1	-6	-1	2	3	3	8	10	11	-2	3	6	7	-4	1	4	6	5	4	3	4
BELIZE TO GUATEMALA																									220 N.MI.
53,000	-56.5	-77	-21	-19	-18	-76	-20	-18	-17	-74	-17	-16	-15	-78	-22	-20	-19	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	2	4	4	-54	2	4	4	-56	1	2	2	-54	3	4	4	-55	2	3	4	2	2	2	2
30,000	-44.5	-35	9	11	11	-34	11	12	13	-33	12	13	13	-32	13	14	14	-33	11	13	13	2	2	1	2
20,000	-21.2	-7	14	15	16	-6	15	17	17	-6	15	15	16	-6	16	16	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	10	14	16	16	9	14	15	15	10	15	16	16	9	14	15	16	2	2	1	1
BELIZE TO KINGSTON																									659 N.MI.
53,000	-56.5	-77	-20	-19	-18	-76	-19	-17	-16	-73	-16	-15	-14	-78	-21	-19	-18	-76	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	2	4	4	-54	3	4	5	-56	1	1	2	-54	3	4	4	-55	2	3	4	2	2	1	2
30,000	-44.5	-35	9	10	11	-34	11	12	12	-33	12	13	13	-32	12	14	14	-33	11	12	13	2	2	1	2
20,000	-21.2	-7	14	15	16	-6	15	16	17	-7	15	15	16	-6	15	16	17	-7	15	16	16	2	2	1	1
10,000	- 4.6	8	12	14	14	8	13	15	15	9	14	15	15	10	14	15	16	9	13	14	15	2	2	1	1
BELIZE TO MEXICO CITY																									624 N.MI.
53,000	-56.5	-77	-20	-18	-17	-75	-19	-17	-16	-74	-17	-16	-15	-78	-22	-20	-19	-76	-19	-18	-17	3	3	2	3
40,000	-56.5	-55	1	1	4	-55	2	3	4	-56	1	2	2	-54	2	4	4	-55	1	3	4	2	2	2	2
30,000	-44.5	-36	8	10	10	-35	10	11	11	-33	12	13	13	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	13	15	16	-6	15	16	17	-6	15	16	16	-6	15	15	17	-7	15	16	16	2	2	1	1
10,000	- 4.6	8	13	14	15	10	14	16	17	10	14	15	15	10	15	16	16	9	14	15	16	2	2	1	1
BELIZE TO MIAMI																									667 N.MI.
53,000	-56.5	-76	-19	-17	-16	-74	-17	-15	-14	-72	-16	-14	-14	-77	-20	-18	-17	-75	-18	-16	-15	3	3	2	3
40,000	-56.5	-55	1	3	3	-55	2	3	4	-56	0	1	2	-54	2	3	4	-55	1	3	4	2	2	1	2
30,000	-44.5	-37	8	9	10	-35	9	10	11	-33	12	13	13	-33	12	13	14	-34	10	12	13	2	2	1	2
20,000	-21.2	-9	13	14	15	-8	13	15	16	-7	15	15	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	- 4.6	7	12	13	14	8	12	14	15	9	14	14	15	9	14	15	15	8	13	14	15	2	2	1	1
BELIZE TO NEW ORLEANS																									744 N.MI.
53,000	-56.5	-74	-18	-16	-15	-72	-16	-14	-13	-72	-16	-14	-14	-77	-20	-18	-17	-74	-17	-16	-15	3	3	2	3
40,000	-56.5	-56	0	2	3	-55	1	3	4	-56	0	1	2	-55	2	3	4	-56	1	2	3	2	2	1	2
30,000	-44.5	-38	7	8	9	-36	8	9	10	-33	12	13	13	-33	11	12	13	-35	9	11	12	2	2	1	2
20,000	-21.2	-10	12	13	14	-9	12	14	15	-6	15	16	16	-7	15	16	16	-8	13	15	15	2	2	1	2
10,000	- 4.6	6	11	12	13	8	12	14	15	9	14	15	15	9	14	15	15	8	13	14	14	2	3	1	2
BELIZE TO PUERTO BARRIOS																									109 N.MI.
53,000	-56.5	-77	-20	-19	-18	-76	-19	-18	-17	-74	-17	-16	-15	-78	-22	-20	-19	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	2	4	4	-54	2	4	4	-56	1	2	2	-54	3	4	4	-55	2	3	4	2	2	2	2
30,000	-44.5	-35	9	10	11	-34	11	12	12	-33	12	13	13	-32	13	14	14	-33	11	13	13	2	2	1	2
20,000	-21.2	-7	14	15	16	-6	15	17	17	-6	15	15	16	-6	16	16	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	14	15	16	9	14	15	15	10	15	16	16	9	14	15	15	2	2	1	1
BELIZE TO SAN PEDRO SULA																									127 N.MI.
53,000	-56.5	-77	-21	-19	-18	-76	-19	-18	-17	-74	-17	-16	-15	-78	-22	-20	-19	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	2	4	4	-54	3	4	4	-56	1	2	2	-54	3	4	4	-55	2	3	4	2	2	2	2
30,000	-44.5	-35	9	11	11	-34	11	12	13	-33	12	13	13	-32	13	14	14	-33	11	13	13	2	2	1	2
20,000	-21.2	-7	14	15	16	-6	15	17	17	-6	15	15	16	-6	16	16	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	14	15	16	9	14	15	15	10	15	15	16	9	14	15	15	2	2	1	1
BELIZE TO TEGUCIGALPA																									218 N.MI.
53,000	-56.5	-77	-21	-19	-18	-76	-20	-18	-17	-74	-17	-16	-15	-78	-22	-20	-19	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	2	4	5	-54	3	4	5	-56	1	2	2	-54	3	4	4	-54	2	3	4	2	2	2	2
30,000	-44.5	-35	10	11	11	-33	11	12	13	-33	12	13	13	-32	13	14	14	-33	11	13	13	2	2	1	2
20,000	-21.2	-7	14	16	16	-6	15	17	17	-7	15	15	16	-6	16	16	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	14	15	16	9	14	15	15	10	15	16	16	9	14	15	15	2	2	1	1
BELIZE TO TRINIDAD																									1621 N.MI.
53,000	-56.5	-77	-21	-19	-18	-77	-20	-19	-18	-73	-17	-15	-14	-78	-21	-19	-18	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-53	4	5	6	-56	1	2	3	-54	3	4	4	-54	2	4	5	3	2	2	2
30,000	-44.5	-34	10	12	12	-32	12	13	14	-33	12	13	13	-32	13	14	14	-33	12	13	14	2	2	2	1
20,000	-21.2	-7	14	16	16	-6	15	17	17	-7	14	15	16	-6	16	16	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	15	2	2	1	1

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50*	D75	D85	APRIL 50	D50	D7	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BENGASI TO BOMBAY																									2922 N.MI.
51,000	-56.5	-69	-12	-10	-9	-68	-11	-9	-8	-73	-16	-14	-13	-71	-15	-12	-11	-70	-14	-11	-9	3	3	3	4
40,000	-56.5	-54	2	5	6	-54	3	6	7	-47	9	12	13	-54	2	4	6	-52	4	7	9	4	4	3	3
30,000	-44.5	-41	4	6	7	-38	7	9	10	-27	18	20	21	-35	9	11	12	-35	9	13	15	4	3	3	3
20,000	-21.2	-15	6	8	9	-11	10	12	13	-3	18	20	21	-9	12	14	14	-10	12	15	16	3	3	3	2
10,000	- 4.6	1	6	8	9	6	10	12	14	14	19	20	21	7	12	14	14	7	12	15	16	3	3	2	2
BENGASI TO CAIRO																									584 N.MI.
53,000	-56.5	-65	-8	-6	-5	-62	-6	-4	-3	-70	-14	-12	-11	-67	-10	-8	-7	-66	-10	-7	-5	3	3	3	3
40,000	-56.5	-54	2	5	6	-56	1	4	5	-47	9	11	12	-55	1	3	4	-53	3	6	8	4	5	2	3
30,000	-44.5	-45	-1	1	2	-41	3	5	6	-28	16	18	19	-39	6	8	9	-38	6	10	12	3	3	3	3
20,000	-21.2	-18	3	5	6	-15	6	8	9	-4	17	18	19	-12	9	11	12	-12	9	12	14	3	3	2	2
10,000	- 4.6	-2	2	4	6	2	6	8	10	12	16	18	18	6	10	12	13	4	9	12	13	3	3	2	2
BENGASI TO CALCUTTA																									3619 N.MI.
51,000	-56.5	-66	-10	-7	-6	-64	-8	-5	-4	-71	-15	-12	-11	-68	-11	-9	-7	-67	-11	-8	-6	4	4	4	4
40,000	-56.5	-55	2	5	7	-54	2	5	7	-47	9	12	13	-55	2	4	6	-53	4	7	9	4	5	4	4
30,000	-44.5	-43	2	5	6	-40	5	7	9	-27	18	20	21	-37	8	10	12	-36	8	12	14	4	4	3	3
20,000	-21.2	-17	4	6	8	-13	8	10	12	-3	18	20	21	-10	11	13	14	-11	10	14	16	4	4	3	3
10,000	- 4.6	-1	3	6	7	5	9	11	11	14	18	20	21	6	11	11	14	6	10	14	15	4	3	2	3
BENGASI TO COLOMBO																									3645 N.MI.
51,000	-56.5	-73	-16	-14	-13	-72	-15	-13	-12	-75	-18	-16	-15	-75	-18	-16	-15	-74	-17	-14	-11	3	4	3	3
40,000	-56.5	-55	2	4	6	-53	4	6	7	-49	8	10	11	-54	3	5	6	-53	4	7	8	4	4	3	3
30,000	-44.5	-17	7	9	10	-35	10	12	11	-28	17	19	20	-34	11	12	13	-33	11	14	15	3	3	2	3
20,000	-21.2	-11	10	12	12	-9	12	14	15	-4	17	19	20	-8	14	15	16	-8	13	16	17	2	3	2	2
10,000	- 4.6	5	9	11	12	7	12	14	14	13	18	19	20	8	13	14	15	8	13	15	16	2	2	2	2
BENGASI TO DAMASCUS																									809 N.MI.
51,000	-56.5	-63	-6	-4	-3	-61	-4	-2	-1	-69	-13	-11	-10	-65	-8	-6	-5	-64	-8	-5	-4	3	3	3	3
40,000	-56.5	-55	2	4	6	-56	0	4	5	-47	9	11	12	-56	1	3	4	-55	3	6	8	4	5	3	3
30,000	-44.5	-46	-2	0	1	-43	2	4	5	-29	16	18	19	-39	5	7	8	-39	5	9	11	3	3	3	3
20,000	-21.2	-20	1	4	5	-16	5	7	8	-5	16	18	19	-13	9	10	11	-13	8	11	13	3	3	2	2
10,000	- 4.6	-4	1	3	4	1	5	8	9	11	15	17	18	5	10	11	12	1	8	11	12	4	4	2	3
BENGASI TO DHAHRAN																									1599 N.MI.
51,000	-56.5	-66	-10	-8	-6	-65	-8	-6	-5	-72	-15	-13	-12	-68	-12	-10	-8	-68	-11	-9	-7	3	3	3	1
40,000	-56.5	-54	2	5	6	-55	2	5	6	-47	10	11	12	-55	2	4	5	-51	4	7	8	4	4	3	3
30,000	-44.5	-44	1	1	4	-40	5	7	8	-27	18	19	20	-37	7	9	10	-37	8	11	13	3	3	3	3
20,000	-21.2	-17	4	6	7	-14	7	9	10	-3	18	20	21	-11	11	12	13	-11	10	13	15	3	3	3	2
10,000	- 4.6	-1	4	6	7	1	8	10	11	14	19	20	21	7	11	13	14	6	10	13	15	3	3	2	2
BENGASI TO KARACHI																									2490 N.MI.
53,000	-56.5	-66	-10	-8	-6	-65	-9	-6	-5	-72	-15	-13	-12	-69	-12	-10	-8	-68	-11	-9	-7	4	3	3	4
40,000	-56.5	-54	2	5	7	-54	2	5	7	-47	10	12	13	-55	2	4	5	-52	4	7	9	4	5	3	3
30,000	-44.5	-43	2	4	5	-39	5	7	8	-27	18	20	21	-37	8	10	11	-36	8	12	14	4	3	3	3
20,000	-21.2	-17	4	6	8	-13	8	10	11	-1	18	20	21	-10	11	13	13	-11	10	14	16	3	3	3	2
10,000	- 4.6	-1	4	6	7	4	9	11	12	14	19	20	21	7	11	13	14	6	11	14	16	3	3	2	3
BENGASI TO LISBON																									1485 N.MI.
51,000	-56.5	-61	-4	-1	0	-59	-3	-0	1	-64	-7	-5	-4	-63	-6	-4	-3	-62	-5	-2	-1	4	4	3	3
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-50	6	8	9	-56	0	3	4	-55	1	5	6	5	5	3	3
30,000	-44.5	-46	-2	0	1	-44	1	3	4	-35	10	12	13	-40	4	6	8	-41	3	6	8	3	3	3	3
20,000	-21.2	-20	1	4	5	-17	4	6	8	-9	11	14	15	-13	8	10	11	-15	6	9	11	4	3	2	3
10,000	- 4.6	-4	1	4	5	0	5	7	9	10	14	16	17	5	7	9	10	2	7	10	12	4	3	3	3
BENGASI TO MADRID																									1252 N.MI.
51,000	-56.5	-60	-4	-1	1	-59	-2	0	1	-63	-7	-5	-4	-62	-6	-4	-3	-61	-5	-2	-0	4	4	3	3
40,000	-56.5	-57	-0	1	5	-57	-0	3	5	-50	6	8	10	-56	0	1	4	-55	1	5	6	5	5	3	3
10,000	-44.5	-47	-2	-0	1	-44	0	1	4	-35	10	12	13	-40	4	6	8	-42	3	6	8	3	3	3	3
20,000	-21.2	-21	0	3	5	-17	4	6	7	-9	12	14	15	-14	7	9	10	-15	6	9	11	4	3	2	3
10,000	- 4.6	-4	0	1	4	0	5	7	8	9	14	16	17	[illegible]	7	9	10	2	6	10	12	4	3	3	3
BENGASI TO MILAN																									973 N.MI.
53,000	-56.5	-59	-2	1	2	-58	-1	1	1	-61	-5	-3	-1	-61	-5	-3	-2	-60	-3	-0	1	4	4	3	3
40,000	-56.5	-57	-0	3	5	-57	-1	3	4	-50	7	9	10	-56	0	3	4	-55	1	5	7	5	5	3	4
30,000	-44.5	-48	-4	-1	-0	-45	-1	2	3	-36	9	11	12	-41	3	6	7	-43	2	6	7	3	4	3	3
20,000	-21.2	-23	-2	1	3	-19	3	5	6	-9	12	14	15	-15	7	9	10	-16	5	8	10	4	4	3	3
10,000	- 4.6	-6	-2	1	3	-2	3	5	7	7	12	14	15	1	6	8	[illegible]	0	5	8	10	4	4	3	3
BENGASI TO NEW DELHI																									2918 N.MI.
53,000	-56.5	-64	-7	-5	-3	-62	-6	-3	-2	-70	-14	-11	-10	-66	-9	-7	-5	-65	-9	-6	-4	4	4	4	4
40,000	-56.5	-55	2	5	7	-55	2	5	7	-47	10	12	13	-55	1	4	5	-51	4	7	9	4	5	4	4
30,000	-44.5	-44	0	3	4	-41	1	6	7	-27	17	19	21	-38	6	9	10	-38	7	11	13	4	4	3	3
20,000	-21.2	-19	2	4	6	-15	7	9	10	-3	18	20	21	-12	9	11	12	-12	9	13	15	4	4	3	3
10,000	- 4.6	-3	1	4	5	1	8	10	11	14	18	20	21	6	10	12	13	5	9	13	15	4	4	2	3
BENGASI TO ROME																									688 N.MI.
53,000	-56.5	-59	-1	-0	1	-58	-2	1	2	-63	-7	-5	-4	-62	-6	-4	-2	-61	-4	-2	-0	4	3	3	3
40,000	-56.5	-56	0	4	5	-57	-1	3	4	-49	8	10	11	-56	0	2	4	-55	2	5	7	5	5	3	3
10,000	-44.5	-48	-3	-1	0	-45	-0	2	1	-14	10	12	13	-41	4	6	7	-42	3	6	8	3	3	3	3
20,000	-21.2	-22	-1	2	1	-18	3	6	7	-9	11	14	15	-14	7	9	10	-16	6	9	10	4	3	2	3
10,000	- 4.6	-6	-1	2	3	-1	4	6	8	8	11	15	16	2	7	9	10	1	6	9	11	4	4	3	3
BENGASI TO TEL AVIV-JAFFA																									744 N.MI.
53,000	-56.5	-64	-7	-5	-4	-62	-5	-3	-2	-70	-11	-11	-10	-66	-9	-7	-6	-65	-9	-6	-5	3	3	3	3
40,000	-56.5	-55	2	5	6	-56	1	4	5	-47	9	11	12	-56	1	3	4	-53	3	6	8	4	5	3	3
30,000	-44.5	-46	-1	1	2	-42	3	5	6	-29	16	18	19	-39	5	7	8	-39	6	10	12	3	3	3	3
20,000	-21.2	-19	2	4	6	-16	5	8	9	-5	16	18	19	-12	9	10	11	-13	8	11	13	3	3	2	2
10,000	- 4.6	-3	1	4	5	1	6	8	9	11	16	17	18	5	10	12	13	4	8	11	13	3	4	2	2
BENGASI TO TRIPOLI																									362 N.MI.
51,000	-56.5	-63	-7	-5	-3	-61	-5	-3	-2	-68	-12	-10	-9	-65	-9	-6	-5	-64	-8	-5	-4	3	3	3	3
40,000	-56.5	-55	1	4	6	-56	0	4	5	-48	8	10	11	-56	1	3	4	-54	3	6	7	4	5	3	3
30,000	-44.5	-46	-1	1	2	-42	3	4	6	-32	13	15	16	-39	5	7	8	-40	5	8	10	3	3	3	3
20,000	-21.2	-19	2	4	6	-15	6	8	9	-6	15	16	17	-12	9	10	11	-13	8	11	12	4	3	2	2
10,000	- 4.6	-3	2	4	5	1	6	8	10	11	15	17	18	5	9	11	12	3	8	11	13	3	3	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
BENGASI TO TUNIS																									572 N.MI.
53,000	-56.5	-61	-5	-2	-1	-60	-3	-1	0	-66	-9	-7	-6	-63	-7	-5	-4	-63	-6	-3	-2	4	3	3	3
40,000	-56.5	-56	1	4	6	-57	-0	3	5	-49	8	10	11	-56	0	3	4	-54	2	5	7	5	5	3	3
30,000	-44.5	-46	-2	0	1	-44	1	3	4	-33	11	13	14	-40	4	6	8	-41	4	7	9	3	3	3	3
20,000	-21.2	-21	1	3	5	-17	5	7	8	-7	14	15	16	-13	8	10	10	-14	7	10	11	4	3	2	2
10,000	-4.6	-4	0	3	4	0	5	7	9	10	14	16	17	3	8	10	11	2	7	10	12	4	3	2	3
BERGEN TO LONDON																									563 N.MI.
53,000	-56.5	-58	-1	2	4	-53	4	6	8	-48	9	11	12	-57	-0	3	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-58	-2	2	5	-54	3	8	10	-49	7	11	13	-56	1	5	7	-54	2	7	10	6	7	6	6
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-42	3	5	6	-45	-1	2	4	-47	-2	1	3	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-24	-3	0	2	-16	5	8	9	-20	1	5	6	-22	-1	3	5	6	5	4	5
10,000	-4.6	-11	-7	-3	-1	-8	-4	-1	1	-0	4	6	8	-4	0	3	5	-6	-1	2	4	5	4	3	5
BERLIN TO BRUSSELS																									345 N.MI.
53,000	-56.5	-57	-0	3	5	-54	3	6	7	-50	7	9	10	-57	-1	2	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	5	8	-51	6	9	11	-56	0	3	5	-55	1	6	8	6	6	5	5
30,000	-44.5	-51	-7	-4	-2	-48	-4	-1	0	-41	4	6	8	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-6	-2	-0	-23	-2	1	3	-14	7	9	10	-19	3	6	8	-21	0	4	6	6	5	3	5
10,000	-4.6	-12	-7	-3	-1	-7	-2	1	2	1	6	8	9	-4	1	4	6	-5	-1	3	5	6	4	3	5
BERLIN TU BUDAPEST																									376 N.MI.
53,000	-56.5	-56	1	4	6	-54	3	5	7	-50	6	9	10	-58	-1	1	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	1	4	6	-51	6	9	10	-56	0	3	5	-55	1	5	7	5	5	5	4
30,000	-44.5	-52	-7	-4	-3	-48	-4	-1	0	-40	4	7	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-14	7	10	11	-18	3	6	8	-21	1	4	6	6	5	3	5
10,000	-4.6	-13	-8	-4	-2	-7	-2	1	2	2	6	8	9	-3	1	4	6	-5	-1	3	5	6	5	3	5
BERLIN TO CAIRO																									1557 N.MI.
53,000	-56.5	-58	-2	1	3	-57	-0	2	3	-59	-3	-0	1	-61	-4	-2	-1	-59	-2	1	2	4	3	3	3
40,000	-56.5	-57	-0	3	5	-56	0	4	5	-49	8	10	11	-56	0	3	4	-54	2	6	7	5	5	4	4
30,000	-44.5	-50	-5	-3	-1	-46	-1	1	2	-35	9	12	13	-42	3	5	6	-43	1	5	7	3	3	3	3
20,000	-21.2	-24	-3	-0	1	-20	1	4	5	-10	11	13	14	-16	6	8	9	-17	4	7	9	4	4	3	3
10,000	-4.6	-9	-4	-1	0	-4	1	4	5	6	10	12	13	1	5	8	9	-2	3	6	8	4	4	3	4
BERLIN TO COLOGNE																									252 N.MI.
53,000	-56.5	-56	0	3	5	-54	3	6	7	-50	7	9	10	-57	-1	2	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	5	7	-51	6	9	11	-56	0	3	5	-55	1	5	8	6	6	5	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-41	4	6	8	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-0	-23	-2	1	3	-14	7	9	10	-19	3	6	8	-21	0	4	6	6	5	3	5
10,000	-4.6	-12	-8	-4	-2	-7	-2	1	2	1	6	8	9	-4	1	4	6	-5	-1	3	5	6	5	3	5
BERLIN TO COPENHAGEN																									191 N.MI.
53,000	-56.5	-57	-0	3	5	-53	3	6	7	-48	8	10	12	-57	-0	2	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	2	4	-54	2	6	8	-50	6	10	12	-56	0	4	5	-55	2	6	8	5	6	5	5
30,000	-44.5	-52	-7	-5	-3	-49	-5	-2	-1	-41	3	6	7	-45	-0	2	4	-47	-2	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-24	-3	0	2	-15	6	9	10	-20	2	5	7	-22	-1	3	5	6	5	3	5
10,000	-4.6	-13	-9	-5	-3	-8	-4	-0	1	0	5	7	8	-6	-1	2	4	-7	-2	2	3	6	5	3	5
BERLIN TO DUSSELDORF																									256 N.MI.
53,000	-56.5	-56	0	3	5	-53	3	6	7	-50	7	9	10	-57	-1	2	3	-54	2	6	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	5	8	-51	6	9	11	-56	0	3	5	-55	1	6	8	6	6	5	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-41	4	6	8	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-14	7	9	10	-19	3	6	8	-21	0	4	6	6	5	3	5
10,000	-4.6	-12	-8	-4	-2	-7	-2	1	2	1	6	8	9	-4	1	4	6	-6	-1	3	5	6	5	3	5
BERLIN TO FRANKFURT																									233 N.MI.
53,000	-56.5	-56	0	4	5	-54	3	5	7	-50	7	9	10	-58	-1	2	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	5	7	-51	5	9	11	-56	0	3	5	-55	1	5	8	5	6	5	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-41	4	6	8	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-0	-23	-2	1	3	-14	7	9	10	-18	3	6	8	-21	0	4	6	6	4	3	5
10,000	-4.6	-12	-8	-4	-2	-7	-2	1	2	1	6	8	9	-3	1	4	6	-5	-1	3	5	6	5	3	5
BERLIN TO GENEVA																									470 N.MI.
53,000	-56.5	-56	0	4	5	-54	2	5	6	-51	5	8	9	-58	-2	1	2	-55	2	5	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	0	4	6	-52	5	8	10	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-51	-6	-3	-2	-48	-3	-1	1	-40	4	7	8	-44	1	4	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-22	-1	2	3	-14	8	10	11	-18	3	6	8	-20	1	5	7	6	4	3	5
10,000	-4.6	-11	-6	-3	-1	-6	-2	1	3	2	7	9	10	-2	2	5	7	-4	0	4	6	6	4	3	5
BERLIN TO GLASGOW																									651 N.MI.
53,000	-56.5	-57	-1	2	4	-53	4	6	8	-48	8	10	12	-57	-0	2	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-58	-2	2	4	-54	2	7	9	-50	7	10	12	-56	0	4	6	-55	2	7	9	6	7	6	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-42	3	5	7	-45	-0	2	4	-46	-2	2	3	4	4	4	4
20,000	-21.2	-28	-7	-3	-0	-24	-3	1	2	-15	6	8	9	-20	2	5	7	-22	-0	3	5	6	5	3	5
10,000	-4.6	-11	-7	-3	-1	-8	-3	-0	2	0	5	7	8	-5	0	3	5	-6	-1	2	4	5	5	3	5
BERLIN TO HAMBURG																									142 N.MI.
53,000	-56.5	-57	-0	3	5	-53	3	6	7	-49	8	10	11	-57	-1	2	3	-54	3	6	8	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	2	6	8	-51	6	9	11	-56	0	3	5	-55	2	6	8	6	6	5	5
30,000	-44.5	-52	-7	-4	-3	-49	-4	-2	-0	-41	3	6	7	-45	-0	3	4	-47	-2	2	3	4	4	4	4
20,000	-21.2	-29	-7	-3	-1	-24	-3	1	2	-15	7	9	10	-19	2	5	7	-22	-0	3	5	6	5	3	5
10,000	-4.6	-13	-8	-4	-2	-8	-3	0	2	1	5	7	9	-5	-0	3	5	-6	-2	2	4	6	5	3	5
BERLIN TO HELSINKI																									606 N.MI.
53,000	-56.5	-57	-1	3	4	-53	4	6	8	-47	9	11	12	-56	0	3	4	-53	3	7	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	3	7	9	-50	7	10	12	-56	1	4	6	-55	2	6	9	5	6	5	5
30,000	-44.5	-53	-8	-6	-4	-50	-5	-3	-1	-42	3	6	7	-46	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-30	-9	-5	-3	-25	-4	-1	1	-15	6	8	9	-21	1	4	6	-23	-2	2	4	6	5	3	5
10,000	-4.6	-15	-11	-6	-4	-10	-5	-2	0	-0	4	7	8	-6	-2	2	4	-8	-3	1	3	6	5	3	5
BERLIN TO ISTANBUL																									933 N.MI.
53,000	-56.5	-56	1	4	5	-54	2	5	6	-53	4	6	7	-58	-2	1	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	1	4	6	-50	7	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-48	-3	-0	1	-39	6	8	10	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	4	-13	9	11	12	-17	4	7	8	-20	1	5	7	5	5	3	4
10,000	-4.6	-12	-8	-4	-2	-6	-1	2	4	3	7	9	10	-2	2	5	7	-4	0	4	6	5	5	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BERLIN TO KEFLAVIK																									1305 N.MI.
53,000	-56.5	-58	-1	2	4	-51	5	8	9	-47	10	12	13	-56	1	4	5	-53	4	7	9	5	4	3	4
40,000	-56.5	-58	-1	3	5	-52	5	9	12	-48	8	12	14	-55	2	6	8	-53	3	8	11	6	7	6	6
30,000	-44.5	-52	-8	-5	-3	-49	-4	-1	0	-43	1	4	6	-46	-2	1	3	-47	-3	1	2	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-26	-5	-1	0	-17	4	6	8	-22	-1	3	5	-24	-2	1	3	6	5	4	6
10,000	- 4.6	-13	-8	-5	-3	-10	-6	-2	-1	-2	3	5	6	-6	-2	1	3	-8	-3	0	2	5	5	3	5
BERLIN TO LISBON																									1244 N.MI.
53,000	-56.5	-58	-1	2	4	-56	1	4	5	-54	2	4	6	-59	-3	-0	1	-57	-0	3	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-53	4	7	8	-56	0	3	5	-56	0	4	6	6	6	5	4
30,000	-44.5	-49	-4	-2	-0	-47	-2	1	2	-39	6	8	9	-43	2	5	6	-44	0	4	6	4	4	3	4
20,000	-21.2	-24	-3	0	2	-21	1	3	5	-12	9	11	12	-16	5	8	9	-18	3	6	8	5	4	3	4
10,000	- 4.6	-8	-3	0	2	-4	1	3	5	4	9	11	12	-1	4	6	8	-2	3	6	8	5	4	3	4
BERLIN TO LONDON																									515 N.MI.
53,000	-56.5	-57	-0	3	5	-54	3	6	7	-50	7	9	10	-57	-1	2	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	6	8	-51	6	9	11	-56	0	4	5	-55	1	6	8	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-4	-1	0	-41	4	6	7	-44	0	3	4	-46	-2	2	4	4	4	4	5
20,000	-21.2	-27	-6	-2	0	-23	-2	1	3	-14	7	9	10	-19	2	6	8	-21	0	4	6	6	5	3	5
10,000	- 4.6	-11	-7	-3	-1	-7	-2	1	2	1	6	8	9	-4	1	4	6	-5	-1	3	5	6	4	3	5
BERLIN TO MADRID																									1000 N.MI.
53,000	-56.5	-57	-1	2	4	-55	1	4	6	-54	3	5	6	-59	-2	0	1	-56	0	3	5	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-53	4	7	9	-56	0	3	5	-56	0	4	6	6	6	5	4
30,000	-44.5	-49	-5	-2	-1	-47	-2	0	2	-39	5	8	9	-43	2	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-25	-4	-0	2	-21	0	3	4	-13	9	11	12	-17	4	7	9	-19	2	6	8	5	4	3	4
10,000	- 4.6	-8	-4	-0	2	-4	0	3	4	4	8	10	12	-1	3	6	8	-3	2	5	7	5	4	3	4
BERLIN TO MONTREAL																									3245 N.MI.
53,000	-56.5	-56	0	3	5	-52	5	7	9	-49	7	10	11	-55	2	4	6	-53	3	7	8	5	4	4	4
40,000	-56.5	-54	2	6	9	-52	4	9	11	-50	6	10	12	-53	3	7	9	-52	4	8	10	6	7	5	6
30,000	-44.5	-51	-6	-3	-2	-48	-4	-1	0	-42	2	5	7	-45	-1	2	4	-47	-2	2	3	4	4	4	4
20,000	-21.2	-30	-9	-4	-2	-26	-5	-1	1	-16	5	8	9	-21	-0	4	6	-23	-2	2	4	7	5	4	6
10,000	- 4.6	-15	-11	-6	-4	-11	-6	-2	-1	-1	4	6	7	-6	-2	2	4	-8	-4	0	2	6	5	3	5
BERLIN TO MOSCOW																									864 N.MI.
53,000	-56.5	-56	0	4	5	-53	4	6	8	-47	9	11	12	-56	1	3	4	-53	3	7	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	2	6	8	-50	6	10	11	-55	1	4	6	-55	2	6	8	5	5	5	5
30,000	-44.5	-53	-8	-6	-4	-49	-4	-1	0	-41	4	7	0	-45	-1	2	4	-47	-2	2	4	4	4	4	4
20,000	-21.2	-30	-9	-5	-2	-24	-3	1	3	-15	7	9	10	-20	1	5	7	-22	-1	3	5	6	5	3	5
10,000	- 4.6	-15	-10	-6	-4	-8	-4	-0	2	0	5	7	8	-6	-1	2	4	-7	-3	1	3	6	5	3	5
BERLIN TO MUNICH																									268 N.MI.
53,000	-56.5	-56	0	4	5	-54	3	5	7	-50	6	8	10	-58	-1	1	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-59	-2	2	4	-56	1	5	7	-51	5	8	10	-56	0	3	5	-55	1	5	7	5	6	5	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-40	4	7	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-28	-6	-3	-0	-23	-2	1	3	-14	7	10	11	-18	3	6	8	-21	1	4	6	6	4	3	5
10,000	- 4.6	-12	-7	-4	-2	-7	-2	1	2	2	6	8	10	-3	1	5	6	-5	-0	3	5	6	5	3	5
BERLIN TO NEW YORK																									3443 N.MI.
53,000	-56.5	-57	-0	3	4	-53	4	6	8	-51	6	8	9	-56	0	3	5	-54	2	5	7	4	4	4	4
40,000	-56.5	-55	2	6	8	-53	3	8	10	-51	6	9	11	-54	3	6	8	-53	3	7	9	6	7	5	6
30,000	-44.5	-50	-5	-2	-1	-48	-3	-0	1	-41	3	6	8	-44	0	3	4	-46	-1	2	4	4	4	4	4
20,000	-21.2	-28	-7	-2	-0	-25	-3	0	2	-15	6	9	10	-20	1	5	7	-22	-1	3	6	7	5	4	5
10,000	- 4.6	-14	-9	-5	-3	-9	-4	-1	1	0	5	7	8	-5	-0	3	5	-7	-2	1	4	6	5	3	5
BERLIN TO OSLO																									455 N.MI.
53,000	-56.5	-57	-1	2	4	-53	4	6	8	-48	9	11	12	-57	-0	3	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	3	7	9	-50	7	10	12	-56	0	4	6	-55	2	7	9	6	6	5	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-42	3	5	7	-46	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-30	-9	-5	-2	-25	-4	-0	1	-16	6	8	9	-20	1	4	6	-23	-1	2	4	6	5	3	5
10,000	- 4.6	-14	-9	-5	-3	-9	-4	-1	1	-0	4	7	8	-6	-2	2	4	-7	-3	1	3	6	5	3	5
BERLIN TO PARIS																									465 N.MI.
53,000	-56.5	-57	-0	3	5	-54	3	5	7	-50	6	8	10	-58	-1	1	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	5	9	10	-56	0	3	5	-55	1	5	8	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	1	-41	4	6	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-23	-1	2	3	-14	7	9	11	-18	3	6	8	-20	1	4	6	6	5	3	5
10,000	- 4.6	-11	-7	-3	-1	-6	-2	1	3	2	6	8	10	-3	2	5	6	-5	-0	3	5	6	4	3	5
BERLIN TO PRAGUE																									146 N.MI.
53,000	-56.5	-56	0	4	5	-54	3	5	7	-50	7	9	10	-57	-1	2	3	-54	2	6	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	5	7	-51	6	9	11	-56	0	3	5	-55	1	5	8	5	6	5	5
30,000	-44.5	-52	-7	-4	-3	-48	-4	-1	0	-41	4	6	8	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-14	7	9	10	-19	3	6	8	-21	0	4	6	6	5	3	5
10,000	- 4.6	-13	-8	-4	-2	-7	-3	0	2	1	6	8	9	-4	1	4	6	-6	-1	3	5	6	5	3	5
BERLIN TO ROME																									641 N.MI.
53,000	-56.5	-56	0	4	6	-55	2	4	6	-53	4	6	7	-59	-2	0	2	-55	1	4	5	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-0	3	5	-52	5	8	9	-56	0	3	4	-56	1	5	7	5	5	4	4
30,000	-44.5	-51	-6	-3	-2	-47	-3	-0	1	-39	5	8	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-5	-2	0	-22	-0	2	4	-13	8	10	12	-17	4	7	8	-20	2	5	7	5	4	3	4
10,000	- 4.6	-11	-6	-2	-0	-6	-1	2	3	3	8	10	11	-2	3	6	7	-4	1	4	6	5	4	3	4
BERLIN TO SANTA MARIA																									1858 N.MI.
53,000	-56.5	-59	-2	1	3	-56	1	3	5	-55	2	4	6	-60	-3	-1	1	-57	-1	2	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	6	-53	4	7	9	-56	0	3	5	-56	0	4	6	6	6	5	5
30,000	-44.5	-48	-4	-1	0	-46	-1	1	2	-39	6	8	9	-42	2	5	6	-44	1	4	6	4	4	4	4
20,000	-21.2	-23	-2	2	3	-20	1	4	5	-12	9	11	12	-16	5	8	10	-18	3	7	8	5	4	3	4
10,000	- 4.6	-7	-2	1	3	-4	1	4	5	4	8	10	11	-0	4	7	8	-2	3	6	8	5	4	3	4
BERLIN TO SHANNON																									810 N.MI.
53,000	-56.5	-57	-1	3	4	-53	3	6	7	-49	7	10	11	-57	-1	2	4	-54	2	6	7	5	4	4	4
40,000	-56.5	-58	-2	3	5	-55	2	6	9	-50	6	10	12	-56	0	4	6	-55	2	6	9	6	7	6	5
30,000	-44.5	-51	-6	-3	-2	-48	-3	-1	1	-41	3	6	7	-44	0	3	4	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	1	-23	-2	1	3	-15	6	9	10	-19	2	6	7	-21	0	4	6	6	5	3	5
10,000	- 4.6	-11	-6	-2	-0	-7	-2	1	2	1	5	7	9	-4	1	4	6	-5	-1	3	5	5	4	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY				APRIL				JULY				OCTOBER				ANNUAL				STANDARD DEVIATION			
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
BERLIN TO STOCKHOLM																									457 N.MI.
55,000	-56.5	-57	-1	3	4	-53	4	6	8	-47	9	11	12	-56	0	3	4	-53	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	3	7	9	-50	7	10	12	-56	1	4	6	-55	2	6	9	5	6	5	5
30,000	-44.5	-53	-8	-5	-4	-50	-5	-3	-1	-42	3	5	7	-46	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-30	-9	-5	-3	-25	-4	-0	1	-15	6	8	9	-20	1	4	6	-23	-2	2	4	6	5	3	5
10,000	- 4.6	-15	-10	-6	-4	-9	-5	-1	1	-0	4	7	8	-6	-2	2	4	-8	-3	1	3	6	5	3	5
BERLIN TO TEHERAN																									1888 N.MI.
55,000	-56.5	-57	-0	3	5	-55	1	4	5	-55	1	4	5	-59	-2	1	2	-56	0	3	4	5	4	3	4
40,000	-56.5	-57	-1	2	4	-55	1	5	6	-48	8	11	12	-56	1	3	5	-54	2	6	8	5	5	4	4
30,000	-44.5	-51	-6	-4	-3	-46	-2	1	2	-36	9	11	13	-43	2	4	6	-44	1	5	7	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-20	1	4	6	-10	11	13	14	-17	4	7	9	-18	3	7	9	5	5	3	4
10,000	- 4.6	-11	-7	-3	-1	-4	1	4	5	5	10	12	13	-1	3	6	8	-3	2	5	7	6	5	3	4
BERLIN TO TEL AVIV-JAFFA																									1543 N.MI.
55,000	-56.5	-57	-1	2	4	-56	0	3	4	-58	-2	1	2	-60	-4	-1	0	-58	-1	1	3	4	3	3	4
40,000	-56.5	-57	-0	3	4	-56	0	4	6	-49	8	10	12	-56	0	3	4	-54	2	6	8	5	5	4	6
30,000	-44.5	-50	-6	-3	-2	-46	-2	1	2	-35	9	11	13	-42	2	5	6	-43	1	5	7	3	4	3	3
20,000	-21.2	-25	-4	-1	1	-20	1	4	5	-10	11	13	14	-16	5	8	9	-18	3	7	9	5	4	3	4
10,000	- 4.6	-10	-5	-2	-1	-4	1	4	5	5	10	12	13	0	5	7	9	-2	2	6	8	5	4	3	4
BERLIN TO VIENNA																									288 N.MI.
55,000	-56.5	-56	1	4	6	-54	3	5	7	-50	6	9	10	-58	-1	1	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	1	5	6	-51	6	9	10	-56	0	3	5	-55	1	5	7	5	5	5	4
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-40	4	7	8	-44	1	3	5	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-14	7	9	11	-18	3	6	8	-21	0	4	6	6	5	3	5
10,000	- 4.6	-13	-8	-4	-2	-7	-2	1	2	2	6	8	9	-3	1	4	6	-5	-1	3	5	6	5	3	5
BERLIN TO WARSAW																									278 N.MI.
55,000	-56.5	-56	0	4	5	-53	3	6	7	-49	8	10	11	-57	-1	2	3	-54	3	6	8	5	4	3	4
40,000	-56.5	-56	-2	2	3	-55	2	5	7	-51	6	9	11	-56	0	3	5	-55	1	6	8	5	5	5	5
30,000	-44.5	-52	-8	-5	-4	-49	-4	-2	-0	-41	4	6	8	-44	0	3	4	-47	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-4	-1	-24	-3	1	2	-14	7	9	10	-19	2	5	7	-21	-0	3	5	6	5	3	5
10,000	- 4.6	-14	-9	-5	-3	-8	-3	-0	2	1	5	8	9	-5	-0	3	5	-6	-2	2	4	6	5	3	5
BERLIN TO ZURICH																									354 N.MI.
55,000	-56.5	-56	0	4	5	-54	3	5	7	-51	6	8	9	-58	-1	1	3	-55	2	5	7	5	4	3	4
40,000	-56.5	-56	-2	2	4	-56	1	4	6	-52	5	8	10	-56	0	3	5	-56	1	5	7	5	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-4	-1	1	-40	4	7	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-23	-1	2	3	-14	7	10	11	-18	3	6	8	-20	1	4	6	6	4	3	5
10,000	- 4.6	-12	-7	-3	-1	-6	-2	1	3	2	6	9	10	-3	2	5	7	-5	-0	3	5	6	4	3	5
BERMUDA TO BOGOTA																									1742 N.MI.
55,000	-56.5	-75	-19	-17	-16	-74	-18	-16	-15	-71	-15	-13	-13	-76	-19	-17	-16	-74	-18	-16	-14	3	3	2	3
40,000	-56.5	-55	2	4	5	-54	2	4	5	-56	1	2	2	-54	2	4	4	-55	2	3	4	3	2	2	2
30,000	-44.5	-36	9	10	11	-34	10	12	12	-33	11	12	13	-33	12	13	14	-34	11	12	13	2	2	2	2
20,000	-21.2	-8	13	14	15	-7	14	15	16	-7	14	15	16	-6	15	16	16	-7	14	15	16	2	2	1	2
10,000	- 4.6	7	11	13	14	7	12	13	14	9	13	14	15	9	13	14	15	8	12	14	14	2	2	1	2
BERMUDA TO BOSTON																									672 N.MI.
55,000	-56.5	-64	-7	-5	-4	-61	-5	-2	-1	-64	-7	-5	-4	-66	-9	-7	-5	-64	-7	-4	-3	3	3	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	4	-56	1	3	4	-55	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-44	0	3	4	-43	1	3	5	-35	9	11	12	-39	6	8	10	-40	4	7	8	4	3	3	3
20,000	-21.2	-18	3	6	7	-17	4	7	8	-9	12	14	15	-12	9	12	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-5	0	3	5	-2	3	5	7	6	11	12	13	3	8	10	11	1	5	8	9	5	4	2	4
BERMUDA TO BRUSSELS																									3167 N.MI.
55,000	-56.5	-60	-3	-1	1	-57	-0	2	3	-56	0	3	4	-60	-4	-1	0	-58	-2	1	3	4	4	4	4
40,000	-56.5	-57	-1	3	5	-57	-0	4	6	-54	3	6	7	-55	1	4	6	-56	1	4	6	6	6	4	5
30,000	-44.5	-47	-2	0	2	-45	-1	2	3	-38	6	8	10	-41	3	6	7	-43	1	5	7	4	4	4	4
20,000	-21.2	-22	-1	3	5	-20	1	4	6	-12	9	11	13	-15	6	9	10	-17	4	7	9	5	5	3	4
10,000	- 4.6	-7	-2	2	4	-4	1	3	5	3	8	10	11	-0	4	7	9	-2	3	6	7	5	4	3	4
BERMUDA TO CARACUS																									1310 N.MI.
55,000	-56.5	-74	-18	-16	-15	-73	-17	-15	-14	-71	-14	-13	-12	-75	-18	-16	-15	-73	-17	-15	-14	3	3	2	3
40,000	-56.5	-55	2	4	5	-55	1	3	4	-56	0	2	2	-54	2	4	4	-55	1	3	4	3	3	2	2
30,000	-44.5	-37	8	9	10	-35	9	11	11	-34	11	12	12	-33	11	13	14	-35	10	11	12	2	2	2	2
20,000	-21.2	-9	12	13	14	-8	13	14	15	-7	14	15	16	-7	15	16	16	-8	13	15	16	2	2	2	2
10,000	- 4.6	6	11	12	13	6	11	12	13	8	13	14	14	8	13	14	14	7	12	13	14	2	2	1	2
BERMUDA TO CHICAGO																									1246 N.MI.
55,000	-56.5	-64	-7	-5	-3	-61	-5	-2	-1	-64	-8	-6	-4	-66	-10	-7	-6	-64	-7	-4	-3	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	4	-55	2	3	4	-56	1	4	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-45	-0	2	3	-43	1	3	4	-35	9	11	12	-39	6	8	9	-41	4	7	8	3	3	3	3
20,000	-21.2	-19	2	5	7	-17	5	7	9	-8	13	14	15	-12	9	12	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-5	-0	3	5	-2	3	6	7	7	11	13	14	3	8	10	12	1	5	8	10	5	4	2	4
BERMUDA TO DAKAR																									2776 N.MI.
55,000	-56.5	-71	-15	-13	-12	-70	-14	-12	-11	-70	-14	-12	-11	-73	-17	-15	-14	-71	-15	-13	-12	3	3	3	3
40,000	-56.5	-56	1	3	4	-57	-0	2	4	-55	2	3	4	-54	2	4	5	-55	1	3	4	4	4	2	2
30,000	-44.5	-39	6	7	8	-37	8	9	10	-35	10	11	12	-34	11	12	13	-36	8	10	11	3	2	2	2
20,000	-21.2	-12	9	11	12	-11	11	12	13	-7	14	15	16	-8	14	15	16	-9	12	13	14	2	2	2	2
10,000	- 4.6	5	9	11	12	5	9	11	12	8	13	14	15	7	12	13	14	6	11	12	13	2	2	2	2
BERMUDA TO GANDER																									1095 N.MI.
55,000	-56.5	-61	-4	-2	-1	-59	-2	0	2	-60	-4	-2	-1	-63	-6	-3	-2	-61	-4	-1	0	4	3	3	5
40,000	-56.5	-57	-0	4	6	-56	0	4	6	-55	1	3	5	-55	2	5	6	-56	1	4	6	6	5	3	4
30,000	-44.5	-46	-1	1	3	-45	-0	2	3	-37	8	10	11	-40	5	7	8	-42	3	6	8	4	4	3	4
20,000	-21.2	-21	0	4	6	-19	2	5	6	-10	11	13	14	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-7	-3	1	3	-4	1	4	5	5	10	11	12	1	6	8	10	-1	3	6	8	6	4	2	4
BERMUDA TO GENEVA																									3278 N.MI.
55,000	-56.5	-60	-4	-1	0	-58	-1	1	3	-58	-1	1	3	-61	-5	-2	-1	-59	-3	-0	1	4	4	4	4
40,000	-56.5	-58	-1	3	5	-58	-1	3	5	-55	2	5	6	-56	1	4	5	-57	-0	3	5	6	6	4	4
30,000	-44.5	-46	-2	1	2	-45	-0	2	3	-38	7	9	10	-41	4	6	8	-42	2	5	7	4	4	3	4
20,000	-21.2	-21	0	4	5	-19	2	5	7	-11	10	12	13	-14	7	10	11	-16	5	8	10	5	4	3	4
10,000	- 4.6	-5	-1	3	5	-3	2	4	6	4	9	11	11	1	5	8	9	-1	4	7	8	5	4	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BERMUDA TO GLASGOW																									2844 N.MI.
55,000	-56.5	-59	-3	0	2	-56	0	3	4	-55	1	4	5	-60	-3	-0	1	-58	-1	2	3	4	4	3	4
40,000	-56.5	-56	0	4	7	-56	1	5	7	-53	3	6	8	-55	2	5	7	-55	1	5	7	6	6	4	5
30,000	-44.5	-47	-3	0	2	-46	-1	1	3	-39	5	8	9	-42	3	5	7	-43	1	4	6	4	4	4	4
20,000	-21.2	-23	-2	2	4	-21	0	4	5	-12	9	11	12	-16	5	8	10	-18	3	7	8	6	5	3	5
10,000	- 4.6	-8	-3	0	2	-5	-1	2	4	2	7	9	10	-1	3	6	8	-3	2	5	6	6	4	3	4
BERMUDA TO HAVANA																									1093 N.MI.
55,000	-56.5	-72	-16	-14	-13	-70	-13	-11	-10	-69	-13	-11	-11	-73	-17	-15	-13	-71	-15	-13	-12	3	3	2	3
40,000	-56.5	-56	0	2	3	-57	-0	2	3	-57	-0	1	2	-55	2	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	5	7	8	-38	7	8	9	-34	11	12	12	-34	10	12	13	-36	8	10	11	3	2	2	3
20,000	-21.2	-11	10	12	13	-11	11	12	13	-7	14	15	16	-8	14	15	16	-9	12	14	14	3	3	2	2
10,000	- 4.6	4	9	10	11	4	9	11	12	8	13	13	14	7	12	13	14	6	11	12	13	3	3	1	2
BERMUDA TO HOUSTON																									1576 N.MI.
55,000	-56.5	-69	-13	-11	-9	-66	-10	-8	-7	-68	-12	-10	-9	-71	-15	-13	-11	-69	-12	-10	-8	3	3	2	4
40,000	-56.5	-58	-1	1	3	-58	-1	1	2	-56	1	2	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-41	4	5	6	-40	5	6	7	-34	11	12	13	-36	9	11	12	-38	7	9	10	3	3	2	3
20,000	-21.2	-14	7	10	11	-13	9	11	12	-7	14	15	16	-9	12	14	15	-11	11	13	14	3	3	2	3
10,000	- 4.6	1	6	8	9	3	8	10	11	8	13	14	14	7	11	13	14	5	9	11	12	3	3	2	3
BERMUDA TO KANO																									4169 N.MI.
55,000	-56.5	-70	-14	-12	-11	-69	-13	-11	-10	-71	-14	-12	-11	-72	-16	-14	-13	-71	-14	-12	-11	3	3	3	3
40,000	-56.5	-56	0	3	4	-56	1	3	5	-54	3	4	4	-54	2	4	5	-55	1	3	4	4	4	2	3
30,000	-44.5	-40	4	6	7	-37	8	9	10	-34	11	12	13	-35	10	12	12	-36	8	10	11	3	2	2	2
20,000	-21.2	-13	8	10	11	-11	10	12	13	-7	14	15	16	-8	13	14	15	-10	11	13	14	2	2	2	2
10,000	- 4.6	4	9	10	11	5	9	11	12	10	14	16	16	7	12	13	14	7	11	13	14	2	2	2	2
BERMUDA TO KEFLAVIK																									2454 N.MI.
55,000	-56.5	-58	-2	1	2	-55	2	4	6	-54	3	5	6	-58	-1	1	3	-56	0	3	4	4	4	3	4
40,000	-56.5	-55	2	6	8	-54	3	7	9	-52	4	7	9	-53	3	7	9	-53	3	6	8	6	6	4	5
30,000	-44.5	-48	-4	-1	1	-46	-2	1	2	-40	5	7	8	-43	1	4	6	-44	0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-23	-2	2	3	-14	8	10	11	-18	3	6	8	-20	1	5	7	6	5	4	5
10,000	- 4.6	-12	-7	-3	-1	-8	-3	-0	2	1	6	8	9	-4	1	4	6	-6	-1	3	4	6	5	3	5
BERMUDA TO KINGSTON																									1084 N.MI.
55,000	-56.5	-73	-17	-15	-14	-71	-15	-13	-12	-70	-13	-12	-11	-74	-18	-16	-14	-72	-16	-14	-13	3	3	2	3
40,000	-56.5	-55	1	3	4	-56	0	2	3	-56	0	1	2	-55	2	3	4	-56	1	3	3	3	3	2	2
30,000	-44.5	-38	6	8	9	-37	8	9	10	-34	11	12	12	-34	11	12	13	-36	9	11	12	3	2	2	2
20,000	-21.2	-10	11	13	13	-9	12	13	14	-7	14	15	16	-7	14	15	16	-8	13	14	15	2	2	1	2
10,000	- 4.6	5	10	11	12	5	10	12	12	8	13	13	14	8	12	14	14	7	11	12	13	3	2	1	2
BERMUDA TO LAJES																									1861 N.MI.
55,000	-56.5	-64	-8	-5	-4	-61	-5	-3	-1	-63	-6	-5	-4	-65	-9	-6	-5	-63	-7	-4	-3	4	3	3	4
40,000	-56.5	-58	-2	2	4	-58	-2	1	3	-56	1	3	4	-56	0	3	4	-57	-1	2	3	5	5	3	4
30,000	-44.5	-44	0	3	4	-43	2	4	5	-36	8	10	11	-38	7	9	10	-40	4	7	8	3	3	3	3
20,000	-21.2	-17	4	7	8	-16	5	8	9	-9	12	14	15	-11	10	12	13	-13	8	10	12	4	4	2	3
10,000	- 4.6	-1	3	6	8	-0	4	7	8	6	11	12	13	4	9	11	12	2	7	9	10	4	3	2	3
BERMUDA TO LIMA																									2759 N.MI.
55,000	-56.5	-76	-20	-18	-17	-75	-19	-17	-16	-72	-15	-14	-13	-76	-19	-17	-16	-75	-18	-16	-15	3	3	2	3
40,000	-56.5	-54	2	4	5	-53	3	5	6	-55	1	3	3	-54	2	4	4	-54	2	4	5	3	3	2	2
30,000	-44.5	-34	10	12	12	-33	12	13	14	-33	12	13	13	-32	13	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-7	14	16	16	-6	15	16	17	-7	14	15	15	-6	15	16	17	-7	15	16	16	2	2	1	2
10,000	- 4.6	8	12	14	15	8	13	14	15	9	13	14	15	9	14	15	15	8	13	14	15	2	2	2	2
BERMUDA TO LISBON																									2697 N.MI.
55,000	-56.5	-63	-6	-4	-2	-60	-4	-1	0	-62	-5	-3	-2	-64	-8	-5	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-58	-2	2	4	-58	-2	1	3	-55	1	4	5	-56	0	3	4	-57	-1	2	4	5	5	3	4
30,000	-44.5	-45	-0	2	3	-43	1	3	5	-36	8	10	11	-39	6	8	9	-41	4	7	8	3	3	3	3
20,000	-21.2	-18	3	6	7	-17	5	7	9	-9	12	13	14	-12	9	11	13	-14	7	10	11	4	4	2	3
10,000	- 4.6	-2	3	5	7	-1	4	6	8	6	11	12	13	4	8	10	11	2	6	9	10	4	4	2	3
BERMUDA TO LONDON																									2979 N.MI.
55,000	-56.5	-60	-3	-1	1	-57	-0	2	3	-56	0	3	4	-60	-4	-1	0	-58	-2	1	2	4	4	4	4
40,000	-56.5	-57	-1	3	5	-57	-0	4	6	-54	3	5	7	-55	1	4	6	-56	1	4	6	6	6	4	5
30,000	-44.5	-47	-2	0	2	-45	-1	2	3	-38	6	9	10	-41	3	6	7	-43	2	5	7	4	4	4	4
20,000	-21.2	-22	-1	3	5	-20	1	5	6	-12	9	12	13	-15	6	9	11	-17	4	7	9	5	5	3	4
10,000	- 4.6	-7	-2	2	4	-4	1	4	5	3	8	10	11	-0	4	7	9	-2	3	6	7	5	4	3	4
BERMUDA TO LOS ANGELES																									2669 N.MI.
55,000	-56.5	-65	-9	-6	-5	-63	-7	-4	-3	-67	-10	-9	-8	-68	-12	-9	-8	-66	-9	-6	-5	4	4	3	4
40,000	-56.5	-57	-1	3	5	-58	-2	1	3	-55	2	3	4	-56	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-44	0	2	4	-42	2	4	5	-34	11	12	13	-38	6	8	10	-40	5	7	9	3	3	2	3
20,000	-21.2	-18	3	6	8	-15	6	9	10	-7	14	15	16	-11	10	12	14	-13	8	11	12	4	4	2	3
10,000	- 4.6	-2	2	6	7	2	6	9	11	10	14	16	16	5	10	12	14	4	8	11	12	5	4	2	4
BERMUDA TO MADRID																									2932 N.MI.
55,000	-56.5	-62	-5	-3	-1	-59	-3	-0	1	-61	-4	-2	-1	-63	-7	-4	-3	-61	-5	-2	-0	4	4	3	4
40,000	-56.5	-58	-2	2	4	-58	-2	2	4	-55	1	4	5	-56	0	3	4	-57	-1	2	4	6	5	3	4
30,000	-44.5	-45	-1	2	3	-44	1	3	4	-37	8	10	11	-39	5	8	9	-41	3	6	8	4	3	3	4
20,000	-21.2	-19	2	5	7	-17	4	7	8	-10	11	13	14	-13	9	11	12	-15	7	9	11	4	4	3	3
10,000	- 4.6	-3	2	5	6	-1	3	6	7	6	10	12	13	3	7	10	11	1	6	8	10	4	4	2	3
BERMUDA TO MEXICO CITY																									2001 N.MI.
55,000	-56.5	-73	-16	-14	-13	-70	-14	-12	-11	-70	-14	-12	-12	-75	-18	-16	-15	-72	-16	-13	-12	3	3	2	3
40,000	-56.5	-57	-0	2	3	-56	0	2	3	-56	0	1	2	-55	2	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	6	7	8	-38	7	8	9	-33	11	12	13	-34	10	12	13	-36	9	10	11	2	2	2	2
20,000	-21.2	-11	10	12	13	-10	11	13	14	-7	14	15	16	-7	14	15	16	-9	12	14	15	3	3	1	2
10,000	- 4.6	5	9	11	12	6	10	12	13	9	13	14	14	8	13	14	15	7	11	13	13	3	3	1	2
BERMUDA TO MIAMI																									906 N.MI.
55,000	-56.5	-71	-15	-13	-12	-69	-12	-10	-9	-69	-12	-11	-10	-73	-16	-14	-13	-70	-14	-11	-10	3	3	2	3
40,000	-56.5	-57	-0	2	3	-57	-1	2	3	-57	-0	1	2	-55	1	3	4	-56	0	2	3	3	3	2	3
30,000	-44.5	-40	5	7	8	-39	6	8	9	-34	11	12	12	-35	10	12	13	-37	8	10	11	3	3	2	3
20,000	-21.2	-12	9	11	12	-11	10	12	13	-7	14	15	16	-8	13	15	16	-10	12	13	14	3	3	2	2
10,000	- 4.6	3	8	10	11	4	8	10	11	8	12	13	14	7	12	13	14	5	10	12	12	3	3	1	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BERMUDA TO MILAN																									3393 N.MI.
53,000	-56.5	-60	-4	-1	0	-58	-1	1	3	-58	-1	1	3	-61	-5	-2	-1	-59	-3	0	2	4	4	4	4
40,000	-56.5	-58	-2	2	5	-58	-1	3	5	-55	2	5	6	-56	1	3	5	-57	-0	3	5	6	6	4	4
30,000	-44.5	-46	-2	1	2	-45	-0	2	3	-38	7	9	10	-41	4	6	8	-43	2	5	7	4	4	3	4
20,000	-21.2	-21	0	4	5	-19	2	5	7	-11	10	12	13	-14	7	9	11	-16	5	8	10	5	4	3	4
10,000	- 4.6	-5	-1	3	4	-3	2	4	6	4	9	11	12	1	5	8	9	-1	4	7	8	5	4	3	4
BERMUDA TO MONTREAL																									892 N.MI.
53,000	-56.5	-62	-6	-3	-2	-60	-3	-1	0	-62	-6	-4	-2	-64	-8	-5	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-55	1	3	4	-55	1	4	6	-56	1	3	5	5	5	3	4
30,000	-44.5	-45	-1	2	3	-44	0	2	4	-36	9	11	12	-39	5	7	9	-41	3	6	8	4	3	3	4
20,000	-21.2	-20	1	4	6	-18	3	5	7	-9	12	14	15	-13	8	11	12	-15	6	9	11	5	4	3	4
10,000	- 4.6	-7	-2	1	3	-4	1	4	5	6	10	12	13	2	7	9	11	-1	4	7	9	5	4	2	4
BERMUDA TO NASSAU																									802 N.MI.
53,000	-56.5	-71	-15	-13	-12	-69	-12	-10	-9	-69	-12	-11	-10	-73	-16	-14	-13	-70	-14	-12	-11	3	3	2	3
40,000	-56.5	-57	-0	2	3	-57	-1	2	3	-57	-0	1	2	-55	1	3	4	-56	0	2	3	3	3	2	3
30,000	-44.5	-40	5	7	8	-38	6	8	9	-34	11	12	12	-35	10	12	13	-37	8	10	11	3	3	2	3
20,000	-21.2	-12	10	11	12	-11	10	12	13	-7	14	15	16	-8	13	15	16	-9	12	13	14	3	3	2	2
10,000	- 4.6	3	8	10	11	4	9	10	11	8	12	13	14	7	12	13	14	6	10	12	12	3	3	1	2
BERMUDA TO NEW ORLEANS																									1307 N.MI.
53,000	-56.5	-69	-13	-11	-10	-67	-10	-8	-7	-68	-12	-10	-9	-71	-15	-13	-11	-69	-12	-10	-8	3	3	2	4
40,000	-56.5	-58	-1	1	3	-58	-1	1	2	-56	0	2	2	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-41	4	6	7	-40	5	7	7	-34	11	12	13	-36	9	11	12	-38	7	9	10	3	3	2	3
20,000	-21.2	-14	8	10	11	-13	9	11	12	-7	14	15	16	-9	12	14	15	-11	11	13	14	3	3	2	3
10,000	- 4.6	1	6	8	10	3	8	10	11	8	12	14	14	7	11	13	14	5	9	11	12	3	3	2	3
BERMUDA TO NEW YORK																									662 N.MI.
53,000	-56.5	-65	-8	-6	-4	-62	-6	-3	-2	-64	-8	-6	-5	-67	-10	-7	-6	-64	-8	-5	-4	3	3	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	3	-56	1	2	3	-55	1	4	5	-57	-0	3	4	5	5	2	4
30,000	-44.5	-44	1	3	4	-43	2	4	5	-35	9	11	12	-38	6	9	10	-40	5	7	9	3	3	3	3
20,000	-21.2	-18	4	6	8	-16	5	8	9	-8	13	14	15	-11	10	12	13	-13	8	10	12	4	4	2	3
10,000	- 4.6	-4	1	4	6	-1	3	6	7	7	11	13	13	4	8	10	12	1	6	8	10	5	4	2	3
BERMUDA TO PANAMA																									1617 N.MI.
53,000	-56.5	-75	-18	-16	-15	-73	-17	-15	-14	-71	-15	-13	-12	-75	-19	-17	-16	-74	-17	-15	-14	3	3	2	3
40,000	-56.5	-55	2	4	5	-55	2	3	4	-56	0	2	2	-54	2	4	4	-55	1	3	4	3	2	2	2
30,000	-44.5	-37	8	10	10	-35	10	11	12	-34	11	12	13	-33	12	13	14	-34	10	12	12	2	2	2	2
20,000	-21.2	-9	12	14	15	-8	13	15	15	-7	14	15	16	-7	15	16	16	-8	14	15	16	2	2	1	2
10,000	- 4.6	6	11	12	13	7	11	13	13	8	13	14	14	8	13	14	15	7	12	13	14	2	2	1	2
BERMUDA TO PORT OF SPAIN																									1318 N.MI.
53,000	-56.5	-74	-18	-16	-15	-74	-17	-15	-14	-71	-14	-13	-12	-75	-18	-16	-15	-73	-17	-15	-14	3	3	2	3
40,000	-56.5	-55	2	4	5	-56	1	1	4	-56	1	2	2	-54	2	4	4	-55	1	3	4	3	3	2	2
30,000	-44.5	-37	8	9	10	-35	9	11	11	-34	10	12	12	-33	11	13	14	-35	10	11	12	2	2	2	2
20,000	-21.2	-9	12	13	14	-9	13	14	15	-7	14	15	16	-7	15	16	16	-8	13	15	15	2	2	2	2
10,000	- 4.6	6	11	12	13	6	11	12	13	8	13	14	14	8	13	14	14	7	12	13	14	2	2	1	2
BERMUDA TO RIO DE JANEIRO																									3531 N.MI.
53,000	-56.5	-76	-20	-17	-16	-75	-19	-17	-16	-71	-14	-12	-11	-74	-18	-16	-15	-74	-18	-15	-14	3	3	3	3
40,000	-56.5	-54	3	5	6	-53	3	5	6	-54	2	4	5	-54	3	4	5	-54	3	5	6	3	3	2	2
30,000	-44.5	-34	10	12	13	-33	12	13	14	-33	11	13	13	-32	13	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-7	14	16	17	-7	15	16	17	-8	14	15	15	-6	15	16	17	-7	14	16	16	2	2	2	2
10,000	- 4.6	8	13	14	15	8	13	14	15	8	12	14	14	9	14	15	16	8	13	14	15	2	2	2	2
BERMUDA TO SAN JUAN																									838 N.MI.
53,000	-56.5	-73	-16	-14	-13	-71	-15	-13	-12	-69	-13	-12	-11	-74	-17	-15	-14	-72	-15	-13	-12	3	3	2	3
40,000	-56.5	-55	1	3	5	-56	0	2	3	-56	0	1	2	-55	2	3	4	-56	1	3	3	3	3	2	2
30,000	-44.5	-38	6	8	9	-37	8	9	10	-34	10	11	12	-34	11	12	13	-36	9	11	12	3	2	2	2
20,000	-21.2	-10	11	12	13	-10	12	13	14	-7	14	15	16	-7	14	15	16	-9	13	14	15	2	2	2	2
10,000	- 4.6	5	9	11	12	5	10	11	12	8	13	13	14	8	12	13	14	6	11	12	13	3	2	1	2
BERMUDA TO SANTA MARIA																									1956 N.MI.
53,000	-56.5	-64	-8	-6	-4	-62	-5	-3	-2	-63	-7	-5	-4	-66	-9	-7	-5	-64	-7	-5	-3	4	3	3	4
40,000	-56.5	-58	-2	2	4	-58	-2	1	3	-56	1	3	4	-56	0	3	4	-57	-1	2	3	5	5	3	4
30,000	-44.5	-44	1	1	4	-42	2	4	5	-36	9	10	11	-38	7	9	10	-40	5	7	9	3	3	3	3
20,000	-21.2	-17	4	7	8	-15	6	8	9	-9	12	14	15	-11	10	12	14	-13	8	11	12	4	4	2	3
10,000	- 4.6	-1	4	7	8	0	5	7	8	6	11	12	13	5	9	11	12	3	7	9	11	4	3	2	3
BERMUDA TO SANTIAGO																									3966 N.MI.
53,000	-56.5	-75	-18	-16	-15	-74	-18	-16	-15	-70	-13	-11	-10	-72	-16	-14	-13	-73	-16	-14	-12	3	3	3	3
40,000	-56.5	-54	1	5	6	-54	3	5	6	-54	2	4	5	-54	2	4	5	-54	3	5	6	3	3	2	2
30,000	-44.5	-34	10	12	13	-33	11	13	14	-34	10	12	12	-33	12	13	14	-34	11	13	13	2	2	2	2
20,000	-21.2	-7	14	16	16	-7	14	16	16	-10	12	13	14	-7	14	16	16	-8	14	15	16	2	2	2	2
10,000	- 4.6	8	13	14	15	8	12	14	14	7	11	12	13	8	13	14	15	8	12	14	15	2	2	2	2
BERMUDA TO SHANNON																									2668 N.MI.
53,000	-56.5	-60	-3	-1	1	-57	-1	2	3	-57	-0	2	3	-60	-4	-1	0	-59	-2	1	2	4	4	4	4
40,000	-56.5	-57	-1	4	6	-57	-0	4	6	-54	2	5	7	-55	1	5	6	-56	1	4	6	6	6	4	5
30,000	-44.5	-46	-2	1	2	-45	-1	2	3	-38	6	9	10	-41	3	6	7	-43	2	5	7	4	4	4	4
20,000	-21.2	-22	-0	3	5	-20	1	5	6	-12	10	12	13	-15	6	9	11	-17	4	7	9	5	5	3	4
10,000	- 4.6	-7	-2	2	4	-4	0	3	5	3	8	10	11	-0	4	7	9	-2	3	6	7	6	4	3	4
BERMUDA TO TORONTO																									978 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-4	-2	-1	-63	-7	-4	-3	-65	-9	-6	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	4	-55	1	3	4	-55	1	4	5	-56	0	2	4	5	5	3	4
30,000	-44.5	-45	-1	2	3	-44	1	3	4	-35	9	11	12	-39	5	8	9	-41	4	7	8	4	3	3	4
20,000	-21.2	-20	2	5	6	-18	4	6	8	-9	12	14	15	-13	9	11	13	-15	7	9	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-3	2	5	6	6	11	12	13	3	7	10	11	0	5	8	9	5	4	2	4
BERMUDA TO TRINIDAD																									1318 N.MI.
53,000	-56.5	-74	-18	-16	-15	-74	-17	-15	-14	-71	-14	-13	-12	-75	-18	-16	-15	-73	-17	-15	-14	3	3	2	3
40,000	-56.5	-55	2	4	5	-56	1	3	4	-56	1	2	2	-54	2	4	4	-55	1	3	4	3	3	2	2
30,000	-44.5	-37	8	9	10	-35	9	11	11	-34	10	12	12	-33	11	13	14	-35	10	11	12	2	2	2	2
20,000	-21.2	-9	12	13	14	-9	13	14	15	-7	14	15	16	-7	15	16	16	-8	13	15	15	2	2	2	2
10,000	- 4.6	6	11	12	13	6	11	12	13	8	13	14	14	8	13	14	14	7	12	13	14	2	2	1	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
BERMUDA TO WASHINGTON, D.C.																									717 N.MS.
53,000	-56.5	-65	-9	-7	-5	-63	-6	-4	-3	-65	-8	-6	-5	-67	-11	-8	-7	-65	-9	-6	-4	3	3	3	4
40,000	-56.5	-58	-1	2	4	-58	-2	1	3	-56	1	2	3	-56	1	3	5	-57	-0	2	4	5	4	2	3
30,000	-44.5	-43	1	3	5	-42	2	4	5	-35	10	11	12	-38	7	9	10	-40	5	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-15	6	8	10	-8	13	15	15	-11	10	12	13	-13	8	13	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	-0	4	7	8	7	11	13	13	4	9	11	32	2	7	9	10	4	4	2	3
BIAK TO MANILA																									1301 N.MI.
53,000	-56.5	-82	-25	-23	-22	-80	-24	-22	-21	-78	-22	-20	-18	-80	-23	-21	-20	-80	-23	-21	-20	3	3	3	3
40,000	-56.5	-54	2	4	4	-52	5	6	7	-54	2	4	4	-54	2	4	4	-54	3	5	6	2	2	2	2
30,000	-44.5	-31	14	15	16	-31	14	15	15	-31	14	15	15	-31	13	14	15	-31	14	15	15	2	2	2	1
20,000	-21.2	-4	17	18	18	-5	16	17	1R	-5	16	17	17	-6	16	17	17	-5	16	17	38	1	2	1	1
10,000	- 4.6	10	15	16	16	11	15	16	17	10	15	15	16	10	15	16	16	10	15	16	17	1	2	1	1
BIAK TO PORT MORESBY																									824 N.MS.
53,000	-56.5	-82	-26	-24	-23	-80	-24	-22	-21	-78	-22	-20	-19	-80	-24	-22	-21	-80	-24	-22	-20	3	3	3	3
40,000	-56.5	-53	3	4	5	-52	5	6	7	-54	2	3	4	-54	2	3	4	-54	3	5	6	2	2	2	2
30,000	-44.5	-31	14	15	16	-31	13	14	15	-32	13	14	15	-32	13	14	15	-31	13	14	15	2	2	2	2
20,000	-21.2	-4	17	18	19	-5	16	17	17	-6	15	16	17	-6	16	17	17	-5	16	17	18	2	2	1	1
10,000	- 4.6	10	15	16	16	10	15	16	17	9	14	15	15	10	14	15	16	10	14	16	16	2	2	1	1
BIMINI TO FT. LAUDERDALE																									53 N.MI.
53,000	-56.5	-74	-17	-15	-14	-71	-15	-13	-12	-71	-14	-13	-12	-75	-19	-16	-15	-73	-16	-14	-14	3	3	2	3
40,000	-56.5	-56	0	2	3	-55	1	3	4	-57	-0	1	1	-55	2	3	4	-56	1	2	3	3	3	1	2
30,000	-44.5	-38	6	8	9	-37	8	9	10	-33	11	12	13	-34	11	12	13	-35	9	10	11	2	2	1	2
20,000	-21.2	-10	11	13	14	-9	12	13	14	-7	14	15	16	-7	15	16	17	-8	13	15	15	2	2	1	2
10,000	- 4.6	5	1C	12	12	6	10	12	13	9	13	14	14	8	13	14	15	7	12	13	13	2	3	1	2
BIMINI TO MIAMI																									54 N.MI.
53,000	-56.5	-74	-17	-15	-14	-71	-15	-13	-12	-71	-14	-13	-12	-75	-19	-17	-15	-73	-36	-15	-14	3	3	2	3
40,000	-56.5	-56	0	2	3	-55	1	3	4	-57	-0	1	1	-55	2	3	4	-56	1	2	3	3	3	1	2
30,000	-44.5	-38	6	8	9	-37	8	9	10	-33	11	12	13	-34	11	12	13	-35	9	11	11	2	2	1	2
20,000	-21.2	-10	11	13	14	-9	12	13	14	-7	14	15	16	-6	15	16	17	-8	13	15	16	2	2	1	2
10,000	- 4.6	6	10	12	12	6	11	12	13	9	13	14	14	8	13	14	35	7	12	13	13	2	3	1	2
BIMINI TO NASSAU																									106 N.MI.
53,000	-56.5	-74	-17	-16	-15	-71	-15	-13	-12	-71	-14	-13	-12	-75	-19	-17	-15	-73	-16	-15	-14	3	3	2	3
40,000	-56.5	-56	1	2	3	-55	1	3	4	-57	-0	1	1	-55	2	3	4	-56	1	3	3	3	3	1	2
30,000	-44.5	-38	7	8	9	-36	8	9	10	-33	11	12	13	-33	11	12	13	-35	9	11	11	2	2	1	2
20,000	-21.2	-10	11	13	14	-9	12	14	14	-7	14	15	16	-6	15	16	17	-8	13	15	16	2	2	1	2
10,000	- 4.6	6	10	12	13	6	11	12	13	9	13	14	14	8	13	14	15	7	12	13	13	2	2	1	2
BLED TO DUBROVNIK																									291 N.MS.
53,000	-56.5	-56	1	4	6	-55	1	4	5	-54	2	4	5	-59	-3	-0	1	-56	0	3	4	5	4	3	4
40,000	-56.5	-58	-1	2	4	-57	-1	3	4	-51	6	8	10	-56	0	3	4	-56	1	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-47	-2	0	1	-38	6	9	10	-42	2	5	6	-45	-0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-21	0	3	4	-12	9	11	12	-16	5	7	9	-19	2	6	8	5	4	3	4
10,000	- 4.6	-10	-6	-2	-1	-5	-0	2	4	4	8	11	:2	-1	4	6	8	-3	1	5	7	5	4	3	4
BLED TO VIENNA																									143 N.MI.
53,000	-56.5	-56	1	4	6	-54	2	5	6	-52	4	7	8	-58	-2	1	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-0	3	5	-51	5	8	10	-56	0	3	4	-56	1	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-2	-48	-3	-0	1	-39	5	8	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	4	-13	8	10	11	-17	4	7	8	-20	1	5	7	5	4	3	4
10,000	- 4.6	-11	-7	-3	-1	-6	-2	1	3	3	7	9	11	-2	3	6	7	-4	0	4	6	5	4	3	4
BLOEM FONTEIN TO CAPE TOWN																									485 N.MI.
53,000	-56.5	-65	-8	-6	-4	-65	-8	-6	-4	-58	-2	1	2	-62	-5	-3	-1	-62	-6	-2	-0	4	4	4	4
40,000	-56.5	-53	3	6	8	-55	1	4	5	-52	4	7	8	-53	3	6	8	-53	3	6	7	4	4	4	4
30,000	-44.5	-37	8	10	11	-38	6	8	9	-42	2	5	7	-39	6	8	10	-39	6	8	10	3	3	4	4
20,000	-21.2	-10	12	13	14	-12	9	11	12	-17	4	6	8	-13	9	11	12	-13	8	13	12	3	3	3	3
10,000	- 4.6	8	12	14	15	5	10	12	13	-0	4	6	7	4	9	11	12	4	9	11	13	3	3	3	4
BLOEM FONTEIN TO EAST LONDON																									251 N.MS.
53,000	-56.5	-65	-9	-6	-5	-65	-9	-6	-5	-59	-2	1	2	-62	-6	-3	-2	-63	-6	-3	-1	4	4	4	4
40,000	-56.5	-53	3	6	8	-55	1	4	5	-52	4	7	8	-53	4	6	8	-53	3	6	8	4	4	4	4
30,000	-44.5	-36	8	11	12	-38	6	8	10	-42	3	5	7	-38	6	8	10	-39	6	9	10	3	3	4	4
20,000	-21.2	-9	12	14	15	-12	9	11	12	-16	5	7	8	-12	9	11	12	-12	9	11	12	3	3	3	3
10,000	- 4.6	8	13	15	16	5	10	12	13	0	5	7	8	5	9	12	13	5	9	12	33	3	3	3	3
BLOEM FONTEIN TO JOHANNESBURG																									209 N.MI.
53,000	-56.5	-69	-12	-10	-8	-68	-11	-9	-7	-61	-5	-2	-1	-65	-8	-6	-4	-66	-9	-6	-4	4	4	4	4
40,000	-56.5	-52	4	7	8	-54	3	5	6	-52	5	7	8	-53	4	6	8	-53	4	6	8	4	4	4	4
30,000	-44.5	-34	11	13	14	-37	8	10	11	-39	6	8	9	-37	8	10	11	-37	8	11	12	3	3	4	3
20,000	-21.2	-7	14	15	16	-10	11	13	13	-14	8	10	11	-10	11	13	14	-10	31	13	14	2	2	3	3
10,000	- 4.6	10	15	16	17	7	11	13	14	1	6	8	9	7	11	13	14	6	11	13	14	2	3	3	3
BLOEM FONTEIN TO PORT ELIZABETH																									294 N.MI.
53,000	-56.5	-65	-8	-6	-4	-65	-8	-6	-4	-58	-2	1	2	-62	-5	-3	-1	-62	-6	-2	-1	4	4	4	4
40,000	-56.5	-53	3	6	8	-55	1	4	5	-52	4	7	8	-53	4	6	8	-53	3	6	7	4	4	4	4
30,000	-44.5	-36	8	10	12	-38	6	8	10	-42	2	5	7	-39	6	8	10	-39	6	8	10	3	3	4	4
20,000	-21.2	-10	12	13	14	-12	9	11	12	-17	4	7	8	-13	8	11	12	-13	8	11	12	3	3	3	3
10,000	- 4.6	8	12	14	15	5	10	12	13	-0	4	7	8	4	9	11	13	4	9	11	13	3	3	3	4
BOGOTA TO BRASILIA																									1986 N.MI.
53,000	-56.5	-78	-21	-19	-18	-77	-20	-18	-17	-72	-15	-13	-12	-75	-18	-16	-15	-75	-19	-16	-14	3	3	3	3
40,000	-56.5	-53	3	5	6	-52	5	7	8	-53	3	5	6	-54	3	4	5	-53	3	6	7	3	3	2	2
30,000	-44.5	-32	13	14	15	-30	14	16	17	-32	13	14	15	-31	14	15	16	-31	13	35	16	2	2	2	2
20,000	-21.2	-4	17	18	19	-4	17	18	19	-8	13	14	15	-6	15	17	17	-6	16	17	18	2	2	2	2
10,000	- 4.6	10	15	16	16	10	15	16	17	8	13	14	15	10	15	16	17	10	14	15	16	2	2	2	2
BOGOTA TO BUENOS AIRES																									2527 N.MI.
53,000	-56.5	-74	-18	-15	-14	-74	-17	-15	-14	-68	-12	-9	-8	-70	-13	-11	-10	-72	-15	-12	-30	3	3	4	3
40,000	-56.5	-53	4	6	7	-53	4	6	8	-53	4	6	7	-54	3	5	6	-53	3	6	7	3	4	3	3
30,000	-44.5	-33	11	13	14	-33	12	13	14	-35	9	11	12	-33	11	13	14	-34	11	13	14	3	3	3	3
20,000	-21.2	-6	15	17	18	-7	14	16	17	-12	10	11	12	-8	14	15	16	-8	13	15	16	2	2	2	2
10,000	- 4.6	9	14	15	16	8	13	14	15	5	10	11	12	8	12	14	14	8	12	14	15	2	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY				APRIL				JULY				OCTOBER				ANNUAL				STANDARD DEVIATION			
		50*	050	075	085	50	050	075	085	50	050	075	085	50	050	075	085	50	050	075	085	JAN	APR	JUL	OCT
BOGOTA TO CARACAS																						554 N.MI.			
55,000	-56.5	-78	-21	-20	-19	-78	-21	-19	-18	-73	-17	-15	-14	-78	-21	-19	-18	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	6	7	-55	1	3	4	-54	3	4	4	-54	3	5	6	2	2	2	2
30,000	-44.5	-33	12	13	14	-30	14	15	16	-32	12	13	14	-31	14	15	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	17	18	18	-7	14	15	16	-6	16	17	17	-6	16	17	18	2	2	1	1
10,000	- 4.6	9	14	15	16	10	14	16	16	9	14	15	16	10	15	16	16	10	14	15	16	2	2	2	1
BOGOTA TO CHICAGO																						2355 N.MI.			
55,000	-56.5	-73	-16	-14	-13	-71	-14	-12	-11	-70	-14	-12	-11	-74	-17	-15	-14	-72	-15	-13	-12	3	3	2	3
40,000	-56.5	-56	1	3	4	-55	2	4	5	-55	1	2	3	-55	2	3	4	-55	1	3	4	3	3	2	2
30,000	-44.5	-38	6	8	9	-36	8	9	10	-33	11	12	13	-34	10	12	13	-36	9	11	11	2	2	2	2
20,000	-21.2	-11	10	12	13	-10	12	13	14	-7	14	15	16	-8	14	15	16	-9	12	14	14	3	3	1	2
10,000	- 4.6	4	8	10	11	5	10	12	13	9	13	14	15	8	12	14	15	6	11	12	13	3	3	1	2
BOGOTA TO DAKAR																						3396 N.MI.			
55,000	-56.5	-78	-21	-19	-18	-78	-21	-19	-18	-74	-17	-16	-15	-78	-21	-19	-18	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-53	3	5	6	-54	2	3	4	-53	3	4	5	-54	3	4	5	3	3	2	2
30,000	-44.5	-34	11	12	13	-31	13	14	15	-33	12	13	13	-31	13	14	15	-32	12	13	14	2	2	2	2
20,000	-21.2	-7	14	15	16	-6	15	16	17	-7	14	15	16	-6	16	17	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	9	13	14	15	9	14	15	15	9	14	15	15	10	14	15	16	9	14	15	15	2	2	1	1
BOGOTA TO GENEVA																						4792 N.MI.			
55,000	-56.5	-68	-11	-9	-7	-66	-10	-8	-6	-65	-9	-7	-6	-69	-12	-10	-9	-67	-10	-8	-7	4	3	3	3
40,000	-56.5	-57	-0	3	4	-57	-0	3	4	-55	2	4	5	-55	1	3	4	-56	1	3	4	4	4	3	3
30,000	-44.5	-41	3	5	6	-39	5	7	8	-36	9	10	11	-36	8	10	11	-38	6	9	10	3	3	2	3
20,000	-21.2	-14	7	9	10	-13	8	10	11	-9	12	14	14	-10	11	13	14	-12	10	12	13	3	3	2	3
10,000	- 4.6	2	6	8	10	3	7	9	10	7	11	13	13	5	10	12	12	4	9	11	12	3	3	2	2
BOGOTA TO GUATEMALA CITY																						1154 N.MI.			
55,000	-56.5	-78	-21	-19	-19	-77	-21	-19	-18	-74	-17	-16	-15	-78	-22	-20	-19	-77	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-52	4	6	6	-55	1	2	3	-54	3	4	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-33	11	12	13	-31	13	14	15	-33	12	13	14	-31	13	14	15	-32	12	14	14	2	2	2	2
20,000	-21.2	-6	15	17	17	-5	16	18	18	-7	14	15	16	-6	16	17	17	-6	16	17	16	2	2	1	1
10,000	- 4.6	9	13	15	15	10	14	15	16	9	14	15	16	10	15	16	16	10	14	15	16	2	2	1	1
BOGOTA TO GUAYAQUIL																						536 N.MI.			
55,000	-56.5	-79	-23	-21	-20	-78	-21	-19	-18	-74	-17	-15	-14	-77	-21	-19	-18	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-55	2	3	4	-54	2	4	4	-54	3	5	6	2	3	2	2
30,000	-44.5	-32	13	14	14	-30	14	16	16	-32	13	14	15	-31	14	15	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-4	17	18	19	-4	17	18	19	-7	14	15	16	-6	16	17	17	-5	16	17	18	2	2	1	1
10,000	- 4.6	10	14	15	16	10	14	16	16	9	14	15	15	10	15	16	16	10	14	15	16	2	2	2	1
BOGOTA TO HAVANA																						1199 N.MI.			
51.000	-56.5	-77	-21	-19	-18	-76	-20	-18	-17	-73	-17	-15	-14	-78	-21	-19	-18	-76	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	2	4	5	-53	4	5	6	-56	1	2	3	-54	3	4	4	-54	2	4	5	2	2	2	2
30,000	-44.5	-3[illegible]	10	11	12	-32	12	13	14	-33	12	13	13	-32	13	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-7	15	16	17	-6	16	17	17	-7	14	15	16	-6	16	16	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	13	15	15	9	14	15	15	10	14	15	16	9	14	15	15	2	2	1	1
BOGOTA TO HOUSTON																						1917 N.MI.			
55,000	-56.5	-76	-19	-18	-17	-75	-18	-16	-15	-73	-16	-15	-14	-77	-21	-19	-18	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-55	2	3	4	-54	3	4	5	-56	1	2	2	-54	2	4	4	-55	2	4	4	2	2	2	2
30,000	-44.5	-36	9	10	11	-34	11	12	12	-33	12	13	13	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	13	15	16	-7	14	16	16	-7	15	15	16	-6	15	16	17	-7	14	16	16	2	2	1	2
10,000	- 4.6	7	12	11	14	8	13	15	15	9	14	15	15	10	14	15	16	9	13	15	15	2	2	1	2
BOGOTA TO KINGSTON																						809 N.MI.			
55,000	-56.5	-78	-21	-19	-18	-77	-21	-19	-18	-73	-17	-15	-14	-78	-21	-19	-18	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-52	4	6	6	-55	1	2	3	-54	3	4	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-33	11	12	13	-31	13	14	15	-33	12	13	13	-31	13	14	15	-32	12	13	14	2	2	2	1
20,000	-21.2	-6	15	16	17	-5	16	17	18	-7	14	15	16	-6	16	17	17	-6	15	17	17	2	2	1	1
10,000	- 4.6	9	13	14	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	15	2	2	1	1
BOGOTA TO LA PAZ																						1520 N.MI.			
55,000	-56.5	-78	-21	-19	-18	-77	-20	-18	-17	-72	-16	-14	-12	-75	-18	-16	-15	-75	-19	-16	-15	3	3	3	3
40,000	-56.5	-53	3	5	6	-52	5	7	8	-54	3	4	5	-54	3	4	5	-53	3	6	7	3	3	2	2
30,000	-44.5	-32	13	14	15	-31	14	16	16	-32	12	14	15	-31	13	15	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	17	18	19	-4	17	18	19	-8	13	14	15	-6	15	16	17	-6	15	17	18	2	2	2	2
10,000	- 4.6	10	14	16	16	10	14	15	16	8	13	14	15	10	14	15	16	9	14	15	16	2	2	2	2
BOGOTA TO LIMA																						1022 N.MI.			
55,000	-56.5	-78	-22	-20	-18	-77	-21	-19	-18	-73	-17	-15	-13	-76	-19	-17	-16	-76	-20	-17	-16	3	3	3	3
40,000	-56.5	-54	3	5	6	-52	5	7	8	-54	2	4	5	-54	2	4	4	-53	1	5	7	3	3	2	2
30,000	-44.5	-32	13	14	15	-30	14	16	16	-32	12	14	15	-31	14	15	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-4	17	18	19	-4	17	18	19	-8	13	15	15	-6	15	17	17	-6	16	17	18	2	2	2	2
10,000	- 4.6	10	14	16	16	10	14	15	16	9	13	14	15	10	14	16	16	9	14	15	16	2	2	2	2
BOGOTA TO LISBON																						4062 N.MI.			
55,000	-56.5	-71	-14	-12	-11	-70	-13	-11	-10	-69	-12	-10	-9	-72	-15	-13	-12	-70	-14	-12	-10	3	3	3	3
40,000	-56.5	-56	0	3	4	-56	1	3	4	-54	2	4	4	-55	2	3	4	-55	1	3	4	4	4	2	3
30,000	-44.5	-39	6	7	8	-37	8	9	10	-35	10	11	12	-35	10	11	12	-36	8	10	11	3	2	2	2
20,000	-21.2	-12	9	11	12	-10	11	12	13	-8	13	15	15	-8	13	14	15	-10	12	13	14	3	3	2	2
10,000	- 4.6	4	9	11	12	5	9	11	12	8	13	14	15	7	12	13	14	6	11	12	13	3	2	2	2
BOGOTA TO LOS ANGELES																						3021 N.MI.			
55,000	-56.5	-74	-17	-15	-14	-72	-16	-14	-13	-72	-16	-14	-14	-76	-19	-17	-16	-74	-17	-15	-14	3	3	2	3
40,000	-56.5	-55	1	3	5	-55	2	3	4	-55	1	3	3	-54	2	4	4	-55	2	3	4	3	3	2	2
30,000	-44.5	-37	7	8	9	-36	8	10	10	-33	12	13	14	-34	11	12	13	-35	10	11	12	2	2	2	2
20,000	-21.2	-10	11	13	14	-9	13	14	15	-6	15	16	16	-7	14	15	16	-8	13	14	15	3	2	1	2
10,000	- 4.6	6	10	12	13	8	13	15	16	10	15	16	16	9	14	15	16	8	13	14	15	3	3	1	2
BOGOTA TO MANAOS																						971 N.MI.			
55,000	-56.5	-79	-22	-21	-20	-77	-21	-19	-18	-73	-17	-15	-13	-77	-20	-18	-18	-76	-20	-17	-16	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-54	2	4	4	-54	3	4	5	-53	3	5	7	2	3	2	2
30,000	-44.5	-32	13	14	14	-30	15	16	17	-32	13	14	15	-30	14	16	16	-31	14	15	16	2	2	2	2
20,000	-21.2	-4	17	18	19	-4	17	19	19	-7	14	15	15	-5	16	17	17	-5	16	17	18	2	2	1	1
10,000	- 4.6	10	15	16	16	10	15	16	17	9	14	15	15	10	15	16	17	10	15	16	16	2	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY				APRIL				JULY				OCTOBER				ANNUAL				STANDARD DEVIATION			
		50*	050	075	085	50	050	075	085	50	050	075	085	50	050	075	085	50	050	075	085	JAN	APR	JUL	OCT
BOGOTA TO MEXICO CITY																									1705 N.MI.
53,000	-56.5	-77	-21	-19	-18	-77	-20	-18	-17	-74	-17	-16	-15	-78	-22	-20	-19	-77	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	2	4	5	-53	3	5	6	-56	1	2	3	-54	3	4	4	-54	2	4	5	2	2	2	2
30,000	-44.5	-34	10	11	12	-32	12	13	14	-33	12	13	14	-32	13	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-5	16	17	18	-7	15	15	16	-6	16	16	17	-6	15	17	17	2	2	1	1
10,000	- 4.6	9	13	14	15	10	14	16	16	9	14	15	16	10	15	16	16	9	14	15	16	2	2	1	1
BOGOTA TO MIAMI																									1314 N.MI.
53,000	-56.5	-77	-20	-18	-18	-76	-19	-17	-17	-73	-16	-15	-14	-77	-21	-19	-18	-76	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	2	4	5	-53	3	5	6	-56	1	2	3	-54	2	4	4	-54	2	4	5	2	2	2	2
30,000	-44.5	-35	10	11	12	-33	12	13	13	-33	12	13	13	-32	13	14	14	-33	11	13	14	2	2	1	2
20,000	-21.2	-7	14	16	16	-6	15	16	17	-7	14	15	16	-6	15	16	17	-6	15	16	16	2	2	1	1
10,000	- 4.6	8	12	14	14	8	13	14	15	9	14	15	15	9	14	15	16	9	13	14	15	2	2	1	1
BOGOTA TO NEW ORLEANS																									1756 N.MI.
53,000	-56.5	-76	-19	-18	-17	-75	-18	-16	-15	-73	-16	-15	-14	-77	-21	-19	-18	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-55	2	3	4	-54	3	4	5	-56	1	2	2	-54	2	4	4	-55	2	4	4	2	2	2	2
30,000	-44.5	-35	9	10	11	-34	11	12	13	-33	12	13	13	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	13	15	16	-7	14	16	16	-7	15	15	16	-6	15	16	17	-7	14	16	16	2	2	1	2
10,000	- 4.6	7	12	13	14	8	13	14	15	9	14	15	15	9	14	15	16	9	13	14	15	2	2	1	2
BOGOTA TO NEW YORK																									2156 N.MI.
53,000	-56.5	-73	-16	-14	-13	-71	-15	-13	-12	-70	-14	-12	-11	-74	-17	-15	-14	-72	-16	-14	-12	3	3	2	3
40,000	-56.5	-55	1	3	4	-55	1	3	4	-56	1	2	3	-55	2	4	4	-55	1	3	4	3	3	2	2
30,000	-44.5	-38	7	8	9	-36	8	10	11	-34	11	12	13	-34	11	12	13	-35	9	11	12	2	2	2	2
20,000	-21.2	-10	11	13	13	-9	12	13	14	-7	14	15	16	-7	14	15	16	-9	13	14	15	3	2	2	2
10,000	- 4.6	4	9	11	12	5	10	12	13	8	13	14	14	8	12	14	14	6	11	12	13	3	3	1	2
BOGOTA TO PANAMA																									408 N.MI.
53,000	-56.5	-78	-21	-20	-19	-77	-21	-19	-18	-74	-17	-16	-15	-78	-22	-20	-19	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	6	7	-55	1	3	4	-54	2	4	4	-54	3	5	6	2	2	2	2
30,000	-44.5	-33	12	13	14	-31	14	15	16	-32	12	13	14	-31	14	15	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-5	16	17	16	-4	17	18	19	-7	14	15	16	-5	16	17	17	-5	16	17	18	2	2	1	1
10,000	- 4.6	9	14	15	16	10	14	15	16	9	14	15	16	10	15	16	16	10	14	15	16	2	2	2	1
BOGOTA TO QUITO																									389 N.MI.
51,000	-56.5	-79	-22	-21	-20	-78	-21	-19	-18	-74	-17	-15	-14	-77	-21	-19	-18	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-55	2	3	4	-54	2	4	4	-54	3	5	6	2	3	2	2
30,000	-44.5	-32	12	14	14	-30	14	16	16	-32	13	14	15	-31	14	15	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-4	17	18	19	-4	17	18	19	-7	14	15	16	-6	16	17	17	-5	16	17	18	2	2	1	1
10,000	- 4.6	10	14	15	16	10	15	16	16	9	14	15	15	10	15	16	16	10	14	15	16	2	2	2	1
BOGOTA TO RIO DE JANEIRO																									2451 N.MI.
53,000	-56.5	-77	-21	-18	-17	-76	-20	-17	-16	-71	-14	-12	-11	-73	-17	-15	-14	-74	-18	-15	-13	3	3	4	3
40,000	-56.5	-53	3	5	6	-52	5	7	8	-53	3	5	6	-54	3	4	5	-55	4	6	7	3	3	3	2
30,000	-44.5	-32	13	14	15	-31	14	15	16	-33	12	14	14	-31	13	15	16	-32	13	15	16	2	3	2	2
20,000	-21.2	-5	17	18	19	-5	16	17	18	-9	12	14	14	6	15	16	17	-6	15	17	18	2	2	2	2
10,000	- 4.6	10	14	16	16	10	14	16	16	7	12	13	14	10	14	16	16	9	14	15	16	2	2	2	2
BOGOTA TO SAN JUAN																									952 N.MI.
53,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-18	-73	-17	-15	-14	-77	-21	-19	-18	-76	-20	-18	-16	3	3	2	3
40,000	-56.5	-54	3	4	5	-53	4	5	6	-55	1	2	3	-54	3	4	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-33	11	12	13	-31	13	14	15	-33	12	13	13	-31	13	14	15	-32	12	13	14	2	2	2	1
20,000	-21.2	-6	15	16	17	-5	16	17	18	-7	14	15	16	-6	16	17	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	15	2	2	1	1
BOMBAY TO CAIRO																									2343 N.MI.
53,000	-56.5	-70	-14	-11	-10	-70	-13	-11	-10	-74	-17	-15	-14	-73	-16	-14	-13	-72	-15	-12	-11	3	4	3	4
40,000	-56.5	-54	2	5	7	-53	3	6	8	-47	9	12	13	-54	3	5	6	-52	4	8	9	4	4	3	3
30,000	-44.5	-39	5	8	9	-36	8	10	12	-26	18	20	21	-34	10	12	13	-34	11	14	16	4	3	3	3
20,000	-21.2	-15	8	10	11	-10	11	13	14	-3	18	20	21	-8	13	15	15	-9	13	15	17	3	3	3	2
10,000	- 4.6	3	7	9	10	7	12	14	15	15	20	21	22	8	13	14	15	8	13	16	17	3	3	2	2
BOMBAY TO CALCUTTA																									898 N.MI.
53,000	-56.5	-75	-18	-16	-15	-72	-16	-13	-11	-76	-20	-17	-15	-76	-19	-17	-16	-75	-18	-15	-13	3	4	4	4
40,000	-56.5	-56	1	4	5	-53	4	7	9	-49	8	11	13	-54	3	6	8	-53	4	8	10	4	4	5	5
30,000	-44.5	-35	9	12	13	-34	11	14	15	-27	18	20	21	-32	13	15	16	-32	12	15	17	4	4	3	3
20,000	-21.2	-9	12	14	15	-8	13	16	17	-3	18	20	20	-6	15	17	18	-6	15	17	18	3	3	2	2
10,000	- 4.6	6	11	13	14	10	14	16	17	12	17	18	19	8	13	14	15	9	14	16	17	3	3	2	2
BOMBAY TO CHICAGO																									6984 N.MI.
53,000	-56.5	-60	-3	0	2	-53	4	6	8	-51	5	8	9	-56	0	3	4	-55	1	4	6	5	4	3	4
40,000	-56.5	-57	-0	3	5	-51	5	9	11	-48	9	12	14	-53	4	7	9	-52	5	8	11	5	5	5	5
30,000	-44.5	-52	-8	-5	-4	-47	-3	0	2	-39	6	8	10	-46	-1	2	3	-46	-2	3	5	4	5	4	4
20,000	-21.2	-31	-9	-6	-4	-25	-4	-1	1	-14	7	9	11	-22	-1	2	4	-23	-2	2	5	5	5	4	5
10,000	- 4.6	-16	-12	-8	-6	-10	-6	-2	-0	1	6	8	9	-7	-3	1	3	-8	-4	1	3	6	5	3	5
BOMBAY TO COLOMBO																									842 N.MI.
53,000	-56.5	-79	-23	-21	-20	-77	-20	-18	-16	-77	-21	-18	-17	-80	-23	-21	-20	-78	-22	-19	-18	3	4	4	3
40,000	-56.5	-56	1	3	5	-52	5	7	8	-51	6	8	9	-54	3	5	6	-53	3	6	7	4	3	3	3
30,000	-44.5	-32	13	14	15	-31	14	16	17	-29	16	17	16	-32	13	14	15	-31	14	16	17	3	3	3	2
20,000	-21.2	-6	15	16	17	-6	15	17	18	-4	17	18	19	-6	16	17	18	-6	16	17	18	2	2	2	2
10,000	- 4.6	9	13	15	15	10	15	16	17	10	15	16	17	9	14	15	15	10	14	15	16	2	2	2	2
BOMBAY TO DAMASCUS																									2137 N.MI.
53,000	-56.5	-69	-13	-10	-9	-68	-12	-9	-8	-73	-17	-14	-13	-71	-15	-12	-11	-70	-14	-11	-10	4	4	4	4
40,000	-56.5	-54	2	5	7	-53	3	6	8	-47	10	12	13	-54	2	5	6	-52	4	8	10	4	5	3	4
30,000	-44.5	-40	4	7	9	-37	7	10	11	-26	18	20	21	-35	10	12	13	-35	10	13	15	4	4	3	3
20,000	-21.2	-15	7	9	10	-11	10	12	14	-3	18	20	21	-9	12	14	15	-9	12	15	17	3	3	3	3
10,000	- 4.6	2	6	8	9	7	11	13	15	15	20	21	22	8	12	14	15	8	12	15	17	3	3	2	3
BOMBAY TO DHAHRAN																									1526 N.MI.
53,000	-56.5	-73	-16	-14	-13	-73	-16	-14	-13	-75	-18	-16	-14	-75	-19	-16	-15	-74	-17	-15	-13	3	4	4	4
40,000	-56.5	-54	2	5	7	-52	4	7	9	-48	9	11	13	-54	3	6	7	-52	5	8	10	4	4	4	4
30,000	-44.5	-37	8	11	12	-34	10	13	14	-26	18	20	21	-33	12	14	15	-32	12	15	17	4	4	3	3
20,000	-21.2	-11	10	12	13	-7	14	16	17	-3	18	20	21	-7	14	16	17	-7	14	17	18	3	3	3	2
10,000	- 4.6	5	10	11	12	10	14	16	17	15	20	21	22	8	13	15	15	10	14	17	18	3	3	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BOMBAY TO DJAKARTA																									2515 N.MI.
53,000	-56.5	-81	-25	-23	-22	-78	-21	-19	-18	-78	-21	-19	-18	-80	-24	-22	-21	-79	-23	-20	-19	3	3	3	3
40,000	-56.5	-55	1	3	4	-52	5	6	7	-53	3	5	6	-54	2	4	5	-54	3	5	6	3	3	2	3
30,000	-44.5	-31	13	14	15	-30	14	16	16	-30	15	16	17	-32	13	14	15	-31	14	15	16	2	2	2	2
20,000	-21.2	-5	16	17	18	-6	16	17	18	-5	17	18	18	-6	16	17	17	-5	16	17	18	2	2	1	2
10,000	- 4.6	9	14	15	16	10	15	16	16	10	14	15	16	9	14	15	15	9	14	15	16	2	2	1	1
BOMBAY TO HONG KONG																									2321 N.MI.
53,000	-56.5	-75	-18	-16	-15	-73	-16	-13	-12	-76	-19	-16	-15	-74	-18	-15	-14	-74	-18	-15	-13	3	4	4	4
40,000	-56.5	-55	1	4	5	-52	4	7	8	-50	6	9	11	-54	3	5	7	-53	4	7	9	3	4	4	4
30,000	-44.5	-35	10	12	13	-33	12	14	15	-27	17	19	20	-31	13	15	16	-32	13	15	17	3	3	2	3
20,000	-21.2	-9	12	14	15	-7	14	16	17	-3	18	19	20	-6	15	17	18	-6	15	17	18	3	3	2	2
10,000	- 4.6	6	10	12	13	9	14	15	16	12	16	17	18	8	13	14	15	9	13	15	16	3	2	2	2
BOMBAY TO HONOLULU																									6956 N.MI.
53,000	-56.5	-61	-5	-2	-0	-61	-4	-1	0	-64	-7	-4	-3	-64	-8	-5	-3	-62	-6	-3	-1	4	4	4	4
40,000	-56.5	-52	5	8	10	-54	2	6	8	-50	7	10	11	-53	4	6	8	-52	4	8	9	5	5	4	4
30,000	-44.5	-43	2	5	7	-40	4	7	9	-30	14	17	18	-36	8	11	13	-37	7	11	13	5	4	4	4
20,000	-21.2	-20	1	4	6	-15	6	9	11	-5	16	18	19	-12	10	12	14	-13	8	12	14	4	4	3	4
10,000	- 4.6	-5	-1	2	4	0	5	7	9	9	14	15	16	3	7	10	11	2	6	9	11	4	4	2	4
BOMBAY TO JIDDA																									1897 N.MI.
53,000	-56.5	-74	-18	-15	-14	-75	-18	-16	-15	-75	-19	-17	-15	-76	-20	-18	-16	-75	-19	-16	-15	3	4	3	3
40,000	-56.5	-54	2	5	6	-52	4	7	8	-48	8	10	11	-53	3	5	7	-52	4	7	9	4	4	3	3
30,000	-44.5	-36	9	11	12	-33	11	13	14	-27	18	19	20	-32	12	14	15	-32	12	15	16	3	3	2	3
20,000	-21.2	-10	11	13	14	-7	14	16	17	-4	17	19	20	-6	15	16	17	-7	14	17	18	2	3	2	2
10,000	- 4.6	7	11	13	14	10	14	16	17	15	20	21	22	9	13	15	15	10	15	17	18	2	2	2	2
BOMBAY TO JOHANNESBURG																									3757 N.MI.
53,000	-56.5	-78	-21	-19	-18	-76	-20	-17	-16	-73	-16	-14	-13	-76	-19	-17	-16	-76	-19	-16	-15	3	4	3	3
40,000	-56.5	-53	3	5	6	-52	5	7	8	-52	5	6	7	-53	4	5	6	-52	4	6	7	3	3	3	3
30,000	-44.5	-30	14	16	16	-31	13	15	16	-32	13	14	15	-32	12	14	14	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	16	17	17	-6	15	16	17	-6	15	17	17	-6	15	16	17	-6	15	16	17	1	2	2	2
10,000	- 4.6	9	14	15	15	10	14	15	16	8	13	14	15	9	14	15	15	9	14	15	15	1	2	2	2
BOMBAY TO KARACHI																									472 N.MI.
53,000	-56.5	-74	-17	-15	-14	-73	-17	-14	-13	-75	-19	-16	-15	-76	-20	-17	-16	-75	-18	-15	-14	3	4	4	4
40,000	-56.5	-55	2	5	7	-53	4	7	9	-48	9	12	13	-54	3	6	8	-52	4	8	10	5	5	5	5
30,000	-44.5	-36	9	12	14	-34	10	13	15	-27	18	20	21	-32	12	15	16	-32	12	16	17	4	4	3	3
20,000	-21.2	-11	11	13	14	-7	14	16	18	-3	18	20	21	-6	15	17	17	-7	14	17	18	3	3	3	2
10,000	- 4.6	6	10	12	13	10	15	17	17	14	19	20	21	8	13	15	15	10	14	16	18	2	3	2	2
BOMBAY TO LEOPOLDVILLE																									3670 N.MI.
53,000	-56.5	-78	-22	-20	-19	-78	-21	-19	-18	-76	-20	-18	-17	-78	-22	-20	-19	-77	-21	-19	-18	3	3	3	3
40,000	-56.5	-54	2	4	5	-52	5	7	8	-52	5	6	7	-52	4	6	7	-52	4	6	7	3	3	2	2
30,000	-44.5	-32	13	14	15	-30	14	16	16	-30	14	16	16	-31	14	15	16	-31	14	15	16	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	16	18	18	-5	17	18	18	-6	16	17	17	-5	16	17	18	2	2	2	2
10,000	- 4.6	10	14	15	16	10	15	16	17	11	16	17	17	10	14	15	16	10	15	16	17	2	2	2	2
BOMBAY TO LISBON																									4326 N.MI.
53,000	-56.5	-63	-7	-4	-2	-62	-6	-3	-2	-67	-11	-8	-7	-66	-9	-7	-5	-65	-8	-5	-4	4	4	3	4
40,000	-56.5	-56	1	4	6	-55	1	5	6	-48	8	11	12	-55	1	4	5	-54	3	6	8	5	5	3	4
30,000	-44.5	-45	-0	2	4	-42	3	5	7	-31	14	16	17	-38	6	8	10	-39	6	9	11	4	4	3	3
20,000	-21.2	-19	2	5	6	-15	6	8	10	-6	15	17	18	-12	9	11	12	-13	8	11	13	4	3	3	3
10,000	- 4.6	-3	2	4	6	2	7	9	11	11	16	18	19	4	9	11	12	4	8	12	13	4	3	3	3
BOMBAY TO LONDON																									3892 N.MI.
53,000	-56.5	-61	-5	-2	-0	-60	-3	-1	1	-61	-5	-2	-1	-63	-6	-4	-2	-61	-5	-2	-0	4	4	4	4
40,000	-56.5	-56	0	3	5	-55	2	5	7	-48	8	11	13	-55	1	4	5	-54	3	7	9	5	5	4	4
30,000	-44.5	-47	-2	1	2	-43	2	4	6	-33	12	14	15	-40	5	7	8	-41	4	8	10	4	4	4	4
20,000	-21.2	-22	-1	2	4	-17	4	7	9	-8	13	15	17	-14	7	10	11	-15	6	10	12	5	4	3	4
10,000	- 4.6	-7	-2	1	3	-0	5	7	9	8	13	15	16	2	6	9	10	1	6	9	11	5	4	3	4
BOMBAY TO LOS ANGELES																									7554 N.MI.
53,000	-56.5	-59	-3	1	2	-52	4	7	8	-52	5	7	8	-56	0	3	4	-55	2	5	6	5	4	3	3
40,000	-56.5	-57	-0	3	5	-51	5	9	11	-48	8	11	13	-53	4	7	9	-52	4	8	10	5	5	5	5
30,000	-44.5	-52	-7	-5	-3	-48	-4	-1	1	-38	7	9	11	-46	-1	1	3	-46	-1	3	5	4	4	4	4
20,000	-21.2	-30	-9	-6	-4	-26	-5	-1	0	-13	8	10	12	-23	-2	1	3	-23	-2	2	5	5	5	3	5
10,000	- 4.6	-16	-11	-8	-6	-11	-6	-3	-1	3	7	9	11	-8	-4	-0	1	-8	-3	1	3	5	5	3	5
BOMBAY TO MADRAS																									558 N.MI.
53,000	-56.5	-78	-22	-20	-19	-76	-19	-17	-15	-77	-21	-18	-17	-79	-23	-21	-20	-78	-21	-18	-17	3	4	4	3
40,000	-56.5	-56	0	3	5	-52	4	7	8	-50	7	9	11	-54	3	5	7	-53	4	7	8	4	4	4	4
30,000	-44.5	-33	11	13	15	-32	13	15	16	-28	17	18	19	-32	13	15	16	-31	13	16	17	3	3	3	3
20,000	-21.2	-7	14	16	17	-6	15	17	18	-4	17	19	19	-6	16	17	18	-6	15	17	18	2	3	2	2
10,000	- 4.6	8	12	14	15	10	15	16	17	11	16	17	17	9	13	15	15	9	14	16	16	2	2	2	2
BOMBAY TO MADRID																									4057 N.MI.
53,000	-56.5	-63	-6	-4	-2	-62	-6	-3	-2	-67	-10	-8	-7	-66	-9	-7	-5	-64	-8	-5	-3	4	4	3	4
40,000	-56.5	-56	1	4	6	-55	1	5	6	-48	8	11	12	-55	1	4	5	-54	3	6	8	5	5	4	4
30,000	-44.5	-45	-0	2	4	-42	3	5	7	-31	14	16	17	-38	6	8	10	-39	6	9	11	4	4	3	3
20,000	-21.2	-19	2	4	6	-15	6	8	10	-6	15	17	18	-12	9	11	12	-13	8	11	13	4	3	3	3
10,000	- 4.6	-3	1	4	5	2	7	9	11	11	16	18	18	4	9	11	12	4	8	12	13	4	4	3	3
BOMBAY TO MANGALORE																									384 N.MI.
53,000	-56.5	-78	-22	-20	-18	-76	-20	-17	-16	-77	-20	-18	-16	-79	-23	-21	-19	-78	-21	-18	-17	3	4	4	3
40,000	-56.5	-56	1	3	5	-52	4	7	8	-49	7	10	11	-54	3	5	7	-53	4	7	9	4	4	4	4
30,000	-44.5	-33	12	14	15	-32	13	15	16	-28	17	18	19	-32	13	15	16	-31	13	16	17	3	3	3	3
20,000	-21.2	-7	14	15	16	-6	15	17	18	-4	17	19	19	-6	16	17	18	-6	15	17	18	2	3	2	2
10,000	- 4.6	8	12	14	15	10	15	16	17	11	16	17	18	9	13	15	15	10	14	16	17	2	2	2	2
BOMBAY TO MELBOURNE																									5295 N.MI.
53,000	-56.5	-77	-21	-18	-17	-74	-17	-15	-14	-73	-17	-14	-13	-74	-17	-15	-14	-74	-18	-16	-14	3	3	3	3
40,000	-56.5	-54	2	4	5	-53	3	5	6	-53	3	5	6	-54	3	5	6	-54	3	5	6	3	3	3	3
30,000	-44.5	-33	12	13	14	-34	10	12	13	-35	10	12	13	-35	9	11	12	-34	10	12	13	2	2	3	2
20,000	-21.2	-7	14	16	16	-9	13	14	15	-10	11	13	14	-9	12	13	14	-9	13	14	15	2	2	2	2
10,000	- 4.6	9	13	15	15	7	12	13	14	5	10	11	12	6	11	12	13	7	12	13	14	2	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
BOMBAY TO MILAN																									3513 N.MI.
55,000	-56.5	-62	-6	-3	-2	-62	-5	-3	-1	-65	-9	-6	-5	-65	-8	-6	-5	-64	-7	-4	-3	4	4	4	4
40,000	-56.5	-56	1	4	6	-55	2	5	7	-48	9	11	13	-55	1	4	5	-53	3	7	9	5	5	4	4
30,000	-44.5	-45	-1	2	3	-42	3	5	7	-31	14	16	17	-39	6	8	9	-39	5	9	11	4	4	3	4
20,000	-21.2	-20	1	3	5	-15	6	8	10	-6	15	17	18	-13	9	11	12	-14	8	11	13	4	4	3	3
10,000	-4.6	-5	-0	3	4	2	6	9	10	10	15	17	18	4	8	11	12	3	7	11	13	4	4	3	3
BOMBAY TO MOSCOW																									2726 N.MI.
55,000	-56.5	-62	-5	-2	-1	-60	-3	-1	0	-61	-5	-2	-1	-63	-6	-3	-2	-61	-5	-2	-0	4	4	4	4
40,000	-56.5	-56	0	4	5	-54	3	6	8	-48	9	12	13	-54	2	5	7	-53	4	8	10	5	5	4	4
30,000	-44.5	-46	-2	1	3	-41	3	6	8	-31	13	16	18	-39	5	8	9	-40	5	9	12	4	4	4	4
20,000	-21.2	-22	-1	2	4	-15	6	9	11	-7	14	17	18	-14	7	10	11	-15	7	10	12	5	4	3	4
10,000	-4.6	-6	-2	1	3	1	5	8	10	10	14	16	17	2	6	9	10	1	6	10	12	5	4	3	4
BOMBAY TO NAGPUR																									368 N.MI.
55,000	-56.5	-75	-19	-17	-15	-74	-17	-14	-13	-76	-20	-17	-15	-77	-21	-18	-17	-76	-19	-16	-14	3	4	4	4
40,000	-56.5	-56	1	4	6	-53	4	7	9	-48	8	11	13	-54	3	6	8	-53	4	8	10	5	4	5	5
30,000	-44.5	-35	10	12	14	-34	11	14	15	-27	17	19	20	-32	13	15	16	-32	13	16	17	4	4	3	3
20,000	-21.2	-9	12	14	15	-7	14	16	17	-3	18	20	20	-6	15	17	18	-6	15	17	18	3	3	2	2
10,000	-4.6	7	11	13	14	10	15	16	17	12	17	18	19	8	13	15	15	9	14	16	17	2	3	2	2
BOMBAY TO NAIROBI																									2445 N.MI.
55,000	-56.5	-79	-22	-21	-19	-78	-22	-19	-18	-76	-20	-18	-17	-79	-22	-20	-19	-78	-21	-19	-18	3	4	3	3
40,000	-56.5	-54	2	4	5	-52	5	7	8	-52	5	7	7	-55	4	5	6	-53	4	6	7	3	3	2	2
30,000	-44.5	-31	13	15	16	-30	14	16	17	-30	15	16	17	-31	13	15	16	-31	14	15	16	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	16	17	18	-5	17	18	19	-4	16	17	17	-5	16	17	18	2	2	2	2
10,000	-4.6	9	14	15	16	10	15	16	16	11	16	17	17	9	14	15	16	10	15	16	17	2	2	2	2
BOMBAY TO NEW DELHI																									615 N.MI.
55,000	-56.5	-73	-16	-14	-12	-71	-14	-11	-10	-75	-18	-15	-13	-74	-18	-15	-14	-73	-16	-13	-11	4	4	5	4
40,000	-56.5	-55	2	5	7	-53	3	7	8	-48	8	12	14	-54	3	6	8	-52	4	8	11	5	5	5	5
30,000	-44.5	-37	8	11	13	-35	9	12	14	-27	18	20	21	-33	12	14	16	-33	12	15	17	5	5	3	4
20,000	-21.2	-12	9	12	13	-9	13	15	16	-3	19	20	21	-7	14	16	17	-7	14	17	18	3	4	3	3
10,000	-4.6	4	9	11	12	9	14	15	17	13	18	19	20	8	13	14	15	9	13	16	17	3	3	2	3
BOMBAY TO NEW YORK																									6763 N.MI.
55,000	-56.5	-57	-3	1	2	-55	2	5	6	-53	3	5	7	-58	-1	1	3	-56	0	3	5	5	4	4	4
40,000	-56.5	-56	1	4	6	-52	4	8	10	-49	8	11	13	-55	3	7	8	-55	4	8	10	5	6	5	5
30,000	-44.5	-50	-5	-3	-1	-46	-1	2	3	-38	7	9	11	-44	1	4	5	-44	0	4	6	4	4	4	4
20,000	-21.2	-28	-6	-3	-1	-22	-1	2	4	-15	9	11	12	-19	2	5	7	-20	1	5	7	6	5	4	5
10,000	-4.6	-13	-8	-4	-2	-7	-2	1	3	3	8	10	11	-4	1	4	6	-5	-1	3	5	6	5	3	5
BOMBAY TO PERTH																									3938 N.MI.
55,000	-56.5	-79	-22	-20	-19	-75	-19	-17	-16	-75	-18	-16	-15	-76	-20	-18	-17	-76	-20	-17	-16	3	3	3	3
40,000	-56.5	-55	2	4	5	-53	4	6	6	-53	4	5	6	-54	3	5	6	-54	3	5	6	3	3	3	3
30,000	-44.5	-32	13	14	15	-33	12	11	14	-12	12	14	15	-34	11	12	13	-33	12	13	14	2	2	3	2
20,000	-21.2	-6	15	16	17	-7	14	15	16	-7	14	15	16	-8	13	15	16	-7	14	15	16	2	2	2	2
10,000	-4.6	9	14	15	15	8	13	14	15	7	12	13	14	7	12	13	14	8	13	14	15	2	2	2	2
BOMBAY TO RANGOON																									1333 N.MI.
55,000	-56.5	-77	-21	-18	-17	-74	-18	-15	-14	-77	-21	-18	-16	-78	-21	-19	-18	-76	-20	-17	-15	3	4	4	3
40,000	-56.5	-56	0	3	4	-52	4	7	8	-50	6	9	10	-54	2	5	7	-53	3	7	8	4	4	4	4
30,000	-44.5	-34	11	13	14	-32	12	15	16	-28	17	18	19	-32	13	15	16	-31	13	16	17	3	4	2	3
20,000	-21.2	-8	14	15	16	-6	15	17	18	-4	17	19	19	-6	16	17	18	-6	15	17	18	3	3	2	2
10,000	-4.6	8	12	14	15	10	15	16	17	11	16	17	18	9	13	15	15	9	14	15	16	2	2	2	2
BOMBAY TO RIO DE JANEIRO																									7241 N.MI.
55,000	-56.5	-77	-21	-18	-17	-77	-20	-18	-17	-73	-17	-14	-13	-75	-18	-16	-15	-75	-19	-16	-15	3	3	3	3
40,000	-56.5	-53	3	5	6	-52	4	7	8	-52	5	6	7	-53	4	6	7	-53	4	6	7	3	3	2	3
30,000	-44.5	-32	13	14	15	-31	13	15	16	-32	13	14	15	-32	13	14	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-6	16	17	18	-6	15	16	17	-6	15	16	17	-6	15	17	17	2	2	2	2
10,000	-4.6	9	14	15	16	10	14	15	16	8	13	14	15	9	14	15	16	9	14	15	16	2	2	2	2
BOMBAY TO ROME																									3326 N.MI.
55,000	-56.5	-64	-7	-4	-3	-63	-6	-4	-3	-68	-12	-9	-8	-66	-10	-7	-6	-65	-9	-6	-4	4	4	4	4
40,000	-56.5	-55	1	4	6	-55	2	5	7	-47	9	12	13	-55	1	4	5	-53	3	7	9	4	5	4	4
30,000	-44.5	-44	0	3	4	-41	3	6	7	-29	15	17	18	-38	7	9	10	-38	6	10	12	4	4	3	3
20,000	-21.2	-19	2	5	6	-15	7	9	10	-5	16	18	19	-12	10	11	12	-13	9	12	14	4	4	3	3
10,000	-4.6	-3	2	4	5	3	7	10	11	12	16	18	19	5	9	11	13	4	9	12	14	4	4	3	3
BOMBAY TO SEATTLE																									6725 N.MI.
55,000	-56.5	-59	-3	1	3	-51	5	8	9	-50	6	8	9	-55	1	3	5	-54	2	5	7	5	4	3	3
40,000	-56.5	-57	-0	3	5	-50	6	10	12	-48	9	12	14	-52	4	7	9	-52	5	9	11	5	5	5	5
30,000	-44.5	-52	-8	-5	-4	-48	-4	-1	0	-38	7	9	11	-47	-2	1	2	-46	-2	2	5	4	4	4	4
20,000	-21.2	-32	-10	-7	-5	-27	-5	-2	-0	-14	8	10	11	-24	-3	0	2	-24	-3	2	4	5	5	4	5
10,000	-4.6	-17	-11	-9	-7	-12	-7	-4	-2	2	6	9	10	-9	-5	-2	-0	-9	-5	-0	2	5	5	3	5
BOMBAY TO TANANARIVE																									2742 N.MI.
55,000	-56.5	-79	-22	-20	-19	-77	-21	-18	-17	-75	-18	-16	-15	-78	-21	-19	-18	-77	-21	-18	-17	3	4	3	3
40,000	-56.5	-54	3	5	6	-52	5	7	8	-52	4	6	7	-53	3	5	6	-53	4	6	7	3	3	3	2
30,000	-44.5	-30	14	16	16	-31	14	15	16	-31	14	15	16	-32	12	14	15	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	16	17	17	-6	15	17	17	-5	16	17	18	-6	15	16	17	-5	16	17	18	1	2	2	2
10,000	-4.6	9	14	14	15	10	15	16	16	9	14	15	15	9	14	15	15	9	14	15	16	1	1	2	2
BOMBAY TO TEHERAN																									1513 N.MI.
55,000	-56.5	-69	-12	-10	-8	-68	-12	-9	-7	-73	-16	-14	-12	-71	-14	-12	-10	-70	-14	-11	-9	4	4	4	4
40,000	-56.5	-54	2	5	7	-53	3	7	8	-47	9	12	14	-54	2	5	7	-52	4	8	10	5	5	4	4
30,000	-44.5	-40	5	8	9	-37	7	10	12	-26	18	20	21	-35	10	12	13	-35	10	14	16	4	4	3	4
20,000	-21.2	-15	6	8	10	-10	11	13	14	-2	19	21	22	-9	12	14	15	-9	12	15	17	3	3	3	3
10,000	-4.6	1	6	8	9	7	12	14	15	15	20	21	22	7	12	14	15	8	12	15	17	3	3	2	3
BOMBAY TO TEL AVIV-JAFFA																									2183 N.MI.
55,000	-56.5	-70	-13	-11	-10	-69	-13	-10	-9	-73	-17	-15	-13	-72	-16	-13	-12	-71	-15	-12	-10	3	4	3	4
40,000	-56.5	-54	2	5	7	-53	3	6	8	-47	10	12	13	-54	2	5	6	-52	4	8	10	4	4	3	4
30,000	-44.5	-40	5	8	9	-37	8	10	11	-26	18	20	21	-35	10	12	13	-34	10	14	16	4	4	3	3
20,000	-21.2	-14	7	9	10	-10	11	13	14	-3	18	20	21	-8	13	14	15	-9	12	15	17	3	3	3	2
10,000	-4.6	2	7	9	10	7	12	14	15	15	20	21	22	8	12	14	15	8	13	16	17	3	3	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*050	075	085	APRIL 50	050	075	085	JULY 50	050	075	085	OCTOBER 50	050	075	085	ANNUAL 50	050	075	085	STANDARD DEVIATION JAN	APR	JUL	OCT
BOMBAY TO TOKYO																									3635 N.MI.
53,000	-56.5	-65	-8	-5	-4	-65	-8	-5	-4	-68	-12	-8	-7	-67	-10	-7	-6	-66	-10	-6	-5	5	4	5	5
40,000	-56.5	-53	4	6	8	-53	3	7	8	-48	9	11	13	-53	4	7	8	-52	5	8	10	4	5	4	4
30,000	-44.5	-41	4	7	8	-38	6	9	11	-27	18	20	22	-34	10	13	14	-35	10	14	16	4	5	4	4
20,000	-21.2	-18	3	6	7	-13	8	11	12	-3	18	20	21	-10	11	14	15	-11	10	14	15	4	4	3	4
10,000	- 4.6	-3	1	4	5	3	7	10	11	11	16	17	18	4	9	11	12	4	8	11	13	4	4	2	3
BOMBAY TO TRIPOLI																									3283 N.MI.
53,000	-56.5	-68	-11	-9	-8	-67	-10	-8	-7	-72	-16	-13	-12	-70	-14	-11	-10	-69	-13	-10	-9	3	3	3	3
40,000	-56.5	-54	2	5	6	-54	5	6	7	-47	9	11	12	-55	2	4	5	-53	4	7	9	4	4	3	3
30,000	-44.5	-41	3	5	7	-38	6	8	10	-27	17	19	20	-36	9	11	12	-36	9	12	14	4	3	3	3
20,000	-21.2	-16	6	8	9	-12	9	11	12	-4	18	19	20	-10	12	13	14	-10	11	14	16	3	5	5	2
10,000	- 4.6	1	5	7	8	5	10	12	13	14	19	20	21	7	12	13	14	7	11	14	16	3	3	2	2
BOMBAY TO TUNIS																									3424 N.MI.
53,000	-56.5	-66	-9	-7	-5	-65	-8	-6	-4	-70	-14	-12	-10	-68	-11	-9	-8	-67	-11	-8	-6	4	3	3	4
40,000	-56.5	-55	2	5	6	-55	2	5	7	-47	9	12	13	-55	2	4	5	-53	4	7	9	4	5	3	4
30,000	-44.5	-43	2	4	5	-40	4	7	8	-28	16	18	19	-37	7	10	11	-37	7	11	13	4	3	3	3
20,000	-21.2	-17	4	6	7	-14	8	10	11	-4	17	19	20	-11	10	12	13	-12	10	13	15	3	3	3	3
10,000	- 4.6	-1	3	6	7	4	9	11	12	13	17	19	20	6	10	12	13	5	10	13	15	3	3	2	3
BOMBAY TO ZURICH																									3529 N.MI.
53,000	-56.5	-62	-6	-3	-1	-61	-5	-2	-1	-64	-8	-5	-4	-64	-8	-5	-4	-63	-6	-4	-2	4	4	4	4
40,000	-56.5	-56	1	4	5	-55	2	5	7	-48	9	11	13	-55	1	4	5	-53	3	7	9	5	5	4	4
30,000	-44.5	-46	-1	2	3	-42	2	5	6	-31	15	16	17	-39	5	8	9	-39	5	9	11	4	4	3	4
20,000	-21.2	-21	0	3	5	-16	6	8	10	-6	15	17	18	-13	8	10	12	-14	7	11	13	4	4	3	3
10,000	- 4.6	-5	-1	2	4	1	6	8	10	10	15	16	17	3	8	10	11	2	7	10	12	4	4	3	4
BONAIRE TO CURACAO																									40 N.MI.
53,000	-56.5	-78	-21	-19	-18	-78	-21	-19	-19	-73	-17	-15	-14	-77	-21	-19	-18	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-52	4	5	6	-55	1	2	3	-54	3	4	4	-54	3	4	5	3	2	2	2
30,000	-44.5	-33	11	12	13	-11	13	14	15	-33	11	13	13	-31	13	14	15	-32	12	14	14	2	2	2	1
20,000	-21.2	-6	15	16	17	-5	16	17	18	-7	14	15	16	-6	16	17	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	15	2	2	1	1
BORDEAUX TO LONDON																									398 N.MI.
53,000	-56.5	-58	-1	2	4	-55	2	4	6	-53	4	6	8	-59	-2	1	2	-56	0	4	5	5	4	4	4
40,000	-56.5	-58	-2	2	5	-57	-0	4	6	-53	4	7	9	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-49	-5	-2	-1	-47	-2	0	2	-40	5	7	9	-43	1	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-24	-3	0	2	-21	-0	3	5	-13	8	10	11	-17	4	7	9	-19	2	6	7	5	4	3	4
10,000	- 4.6	-8	-3	0	2	-5	-0	3	4	3	7	9	11	-1	3	6	8	-3	2	5	7	5	4	3	4
BORDEAUX TO MADRID																									291 N.MI.
53,000	-56.5	-59	-4	1	3	-57	-0	3	4	-57	-1	1	3	-60	-4	-1	-0	-58	-2	1	3	5	4	4	4
40,000	-56.5	-58	-2	2	5	-54	-2	2	4	-54	3	6	7	-57	-0	3	4	-57	-0	3	5	6	6	4	4
30,000	-44.5	-48	-3	-1	1	-46	-1	2	3	-38	7	9	10	-42	3	6	7	-43	1	5	6	4	4	3	4
20,000	-21.2	-22	-1	2	4	-19	2	4	6	-11	10	12	13	-15	6	8	10	-17	4	7	9	5	4	3	4
10,000	- 4.6	-5	-1	2	4	-2	3	5	6	6	11	13	14	0	5	7	9	-0	4	8	9	5	4	3	4
BOSTON TO GANDER																									792 N.MI.
53,000	-56.5	-57	-0	2	4	-54	2	5	6	-56	0	3	4	-59	-2	1	3	-57	-0	3	5	4	4	4	5
40,000	-56.5	-54	2	6	8	-54	3	7	9	-54	3	6	7	-54	3	6	8	-54	3	6	8	6	6	4	5
30,000	-44.5	-49	-4	-1	0	-47	-3	-0	1	-38	6	9	10	-43	2	4	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-24	-3	1	3	-12	9	11	13	-17	4	7	9	-20	1	5	7	6	5	3	5
10,000	- 4.6	-14	-10	-5	-2	-9	-4	-1	1	3	7	9	11	-3	2	5	7	-6	-1	3	5	7	5	3	5
BOSTON TO KEFLAVIK																									2090 N.MI.
53,000	-56.5	-56	0	1	5	-51	5	8	9	-50	7	9	10	-54	2	5	7	-53	4	7	8	5	4	4	4
40,000	-56.5	-53	3	7	10	-51	5	10	12	-50	6	10	11	-52	5	9	11	-52	5	9	11	6	6	5	6
30,000	-44.5	-51	-7	-4	-2	-49	-4	-1	0	-42	2	5	7	-46	-1	2	3	-47	-2	1	3	4	4	4	4
20,000	-21.2	-31	-10	-6	-3	-27	-6	-2	-0	-16	5	8	9	-23	-1	3	5	-24	-3	1	4	7	6	4	6
10,000	- 4.6	-18	-13	-9	-6	-12	-8	-4	-2	-1	3	6	7	-8	-3	1	3	-10	-5	-1	1	7	6	3	6
BOSTON TO MEXICO CITY																									1978 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-10	-7	-6	-68	-12	-10	-9	-71	-15	-12	-11	-69	-12	-9	-8	3	3	3	4
40,000	-56.5	-57	-1	2	3	-57	-0	2	4	-55	1	3	3	-55	1	3	4	-56	0	3	4	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-34	11	12	13	-37	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-15	6	9	10	-13	8	10	11	-7	14	15	16	-10	12	13	14	-11	10	12	13	3	3	2	3
10,000	- 4.6	0	5	7	9	3	8	10	11	8	13	14	15	6	11	13	14	4	9	11	12	4	4	2	3
BOSTON TO MONTREAL																									221 N.MI.
53,000	-56.5	-58	-1	1	3	-56	1	3	5	-58	-2	1	2	-60	-4	-0	1	-58	-2	1	3	4	4	4	5
40,000	-56.5	-55	1	5	8	-54	2	6	8	-54	3	5	6	-54	2	5	7	-54	2	5	6	6	6	4	5
30,000	-44.5	-49	-4	-2	-0	-47	-3	-0	1	-37	7	9	11	-42	2	5	6	-44	1	4	6	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-23	-2	1	3	-11	10	12	13	-16	5	8	10	-19	2	6	8	6	5	5	5
10,000	- 4.6	-13	-9	-4	-2	-8	-4	-0	1	4	8	10	11	-1	3	7	9	-5	-0	4	6	7	5	3	5
BOSTON TO SAN JUAN																									1458 N.MI.
53,000	-56.5	-69	-13	-10	-9	-67	-11	-9	-8	-67	-11	-9	-8	-71	-14	-12	-10	-68	-12	-10	-9	3	3	2	4
40,000	-56.5	-56	0	3	4	-57	-0	2	3	-56	1	2	3	-55	2	4	5	-56	1	3	4	4	4	2	3
30,000	-44.5	-41	4	6	7	-40	5	7	8	-35	10	11	12	-36	9	11	12	-38	7	9	10	3	3	2	3
20,000	-21.2	-14	7	10	11	-13	8	11	12	-8	13	15	15	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	1	5	8	9	2	7	9	10	7	12	13	14	6	10	12	13	4	9	10	11	4	3	2	3
BOSTON TO SANTA MARIA																									2116 N.MI.
53,000	-56.5	-60	-4	-1	0	-58	-1	1	3	-60	-3	-1	0	-62	-5	-2	-1	-60	-3	-0	1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-55	2	4	5	-56	1	4	5	-56	0	3	5	6	5	4	4
30,000	-44.5	-46	-2	1	2	-45	-0	2	3	-37	8	10	11	-40	4	7	8	-42	2	6	7	4	4	3	4
20,000	-21.2	-21	0	4	6	-19	2	5	7	-10	11	13	14	-14	8	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-6	-2	2	4	-4	1	4	5	5	9	11	12	1	6	9	10	-1	4	7	8	6	4	3	4
BOSTON TO TORONTO																									387 N.MI.
53,000	-56.5	-59	-2	0	2	-57	-0	2	4	-59	-3	-0	1	-61	-5	-1	0	-59	-2	1	2	4	4	4	5
40,000	-56.5	-56	1	5	7	-55	1	5	7	-54	3	5	6	-55	2	5	7	-55	2	4	6	6	6	3	5
30,000	-44.5	-48	-4	-1	0	-47	-2	0	2	-37	7	10	11	-42	2	5	7	-44	1	5	7	4	4	3	4
20,000	-21.2	-25	-4	-0	2	-22	-1	2	4	-11	10	13	14	-16	5	9	10	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-8	-3	-1	-7	-3	1	3	4	9	11	12	-0	4	8	10	-4	1	4	7	6	5	3	5

*0--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50*	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BOSTON TO VANCOUVER																						2176 N.MI.			
55,000	-56.5	-57	-0	3	4	-55	2	4	6	-55	1	4	5	-58	-2	1	2	-56	0	3	5	5	4	4	4
40,000	-56.5	-55	2	6	8	-55	2	6	8	-53	3	6	8	-55	2	5	7	-54	2	5	7	6	6	4	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-2	-0	-39	6	8	9	-44	0	3	4	-46	-1	2	4	4	4	3	4
20,000	-21.2	-30	-8	-4	-2	-24	-3	1	3	-13	9	11	12	-19	2	6	7	-21	-0	4	6	6	5	3	5
10,000	- 4.6	-16	-11	-7	-4	-8	-4	-0	2	4	8	11	12	-3	1	5	7	-6	-1	3	5	7	5	4	6
BRASILIA TO BUENOS AIRES																						1274 N.MI.			
55,000	-56.5	-71	-14	-12	-10	-70	-13	-11	-9	-66	-7	-4	-3	-65	-8	-6	-4	-67	-11	-7	-5	4	4	4	4
40,000	-56.5	-52	4	7	8	-53	3	6	8	-52	5	7	8	-54	3	5	7	-53	4	6	8	4	4	3	4
30,000	-44.5	-35	9	12	13	-36	9	11	12	-39	6	8	9	-36	9	11	12	-36	8	11	12	3	3	3	3
20,000	-21.2	-7	14	16	17	-10	11	13	14	-14	7	9	10	-10	12	14	15	-10	11	13	15	3	3	3	3
10,000	- 4.6	9	13	15	16	7	11	13	14	2	7	8	9	6	10	12	13	6	10	13	14	3	3	2	3
BRASILIA TO HAVANA																						3087 N.MI.			
55,000	-56.5	-78	-21	-19	-18	-77	-20	-18	-17	-72	-16	-14	-13	-76	-19	-18	-17	-76	-19	-17	-15	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	4	6	7	-54	2	4	4	-54	3	4	5	-54	3	5	6	3	3	2	2
30,000	-44.5	-33	12	13	14	-31	13	15	16	-32	12	13	14	-31	14	15	16	-32	13	14	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	16	17	18	-7	14	15	15	-6	16	17	17	-6	15	17	17	2	2	1	2
10,000	- 4.6	9	14	15	16	10	14	15	16	9	13	14	15	10	15	16	16	9	14	15	16	2	2	2	2
BRASILIA TO KINGSTON																						2649 N.MI.			
55,000	-56.5	-78	-21	-19	-18	-77	-21	-19	-18	-72	-16	-14	-13	-76	-19	-17	-16	-76	-19	-17	-15	3	3	3	3
40,000	-56.5	-54	3	5	6	-52	5	7	8	-54	2	4	5	-54	3	4	5	-53	3	5	6	3	3	2	2
30,000	-44.5	-32	12	13	14	-31	14	15	16	-32	12	14	14	-31	14	15	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	17	18	18	-8	14	15	15	-6	16	17	17	-6	15	17	18	2	2	2	2
10,000	- 4.6	9	14	15	16	10	14	16	16	8	13	14	15	10	15	16	16	9	14	15	16	2	2	2	2
BRASILIA TO LIMA																						1707 N.MI.			
55,000	-56.5	-77	-20	-18	-16	-76	-19	-17	-16	-70	-14	-11	-10	-72	-15	-13	-12	-74	-17	-14	-12	4	3	4	3
40,000	-56.5	-53	4	6	7	-52	5	7	8	-51	4	6	7	-54	3	5	6	-53	4	6	8	3	4	3	3
30,000	-44.5	-32	13	14	15	-32	13	15	16	-33	12	13	14	-32	13	14	15	-32	12	14	15	2	3	3	3
20,000	-21.2	-5	16	18	18	-5	16	17	18	-10	12	13	14	-7	15	16	17	-7	15	16	17	2	2	2	2
10,000	- 4.6	10	14	15	16	9	14	15	16	6	11	12	13	9	14	15	16	9	13	15	15	2	2	2	2
BRASILIA TO MANAUS																						1063 N.MI.			
55,000	-56.5	-77	-21	-18	-17	-76	-20	-18	-17	-71	-14	-12	-11	-73	-17	-15	-14	-75	-18	-15	-13	3	3	4	3
40,000	-56.5	-53	3	5	6	-52	5	7	9	-53	4	5	6	-54	3	4	5	-53	4	6	8	3	4	3	2
30,000	-44.5	-32	13	14	15	-30	14	16	17	-32	13	14	15	-31	14	16	16	-31	13	15	16	2	3	2	2
20,000	-21.2	-5	17	18	19	-4	17	18	19	-8	13	14	15	-6	15	17	17	-6	15	17	18	2	2	2	2
10,000	- 4.6	10	14	16	16	10	15	16	17	7	12	13	14	10	15	16	17	9	14	15	16	2	2	2	2
BRASILIA TO MONTEVIDEO																						1220 N.MI.			
55,000	-56.5	-71	-14	-12	-10	-70	-13	-11	-9	-66	-7	-4	-3	-65	-8	-6	-4	-67	-11	-7	-5	4	4	4	4
40,000	-56.5	-52	4	7	8	-53	3	6	8	-52	5	7	8	-54	3	5	7	-53	4	6	8	4	4	3	4
30,000	-44.5	-35	10	12	13	-35	9	11	12	-39	6	8	9	-36	9	11	12	-36	8	11	12	3	3	3	3
20,000	-21.2	-7	14	16	17	-10	11	13	14	-14	7	9	10	-10	12	13	15	-10	11	14	15	3	3	3	3
10,000	- 4.6	9	13	15	16	7	11	13	14	2	7	8	9	6	11	12	13	6	10	13	14	3	3	2	3
BRASILIA TO NEW YORK																						3682 N.MI.			
55,000	-56.5	-75	-18	-16	-15	-74	-17	-15	-14	-70	-14	-12	-11	-74	-17	-15	-14	-73	-17	-14	-13	3	3	3	3
40,000	-56.5	-55	2	4	5	-54	2	5	6	-55	2	3	4	-54	2	4	5	-54	2	4	5	3	3	2	2
30,000	-44.5	-36	9	10	11	-34	10	12	13	-33	11	13	13	-33	12	13	14	-34	11	12	13	2	2	2	2
20,000	-21.2	-8	13	14	15	-8	13	15	16	-7	14	15	15	-7	14	16	16	-8	14	15	16	2	2	2	2
10,000	- 4.6	6	11	13	13	7	11	13	14	8	13	14	14	8	13	14	15	7	12	14	14	2	2	2	2
BRASILIA TO PANAMA																						2394 N.MI.			
55,000	-56.5	-78	-21	-19	-18	-77	-20	-18	-17	-72	-16	-13	-12	-75	-19	-17	-16	-76	-19	-16	-15	3	3	3	3
40,000	-56.5	-53	3	5	6	-52	5	7	8	-54	3	4	5	-54	3	4	5	-53	3	6	7	3	3	2	2
30,000	-44.5	-32	13	14	15	-30	14	16	17	-32	12	14	15	-31	14	15	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	17	18	19	-4	17	18	19	-8	13	14	15	-6	16	17	17	-6	16	17	18	2	2	2	2
10,000	- 4.6	10	14	16	16	10	15	16	17	8	13	14	15	10	15	16	17	10	14	15	16	2	2	2	2
BRASILIA TO RIO DE JANEIRO																						495 N.MI.			
55,000	-56.5	-75	-19	-16	-15	-74	-18	-15	-14	-68	-11	-9	-7	-69	-13	-10	-9	-72	-15	-12	-10	4	4	4	3
40,000	-56.5	-52	4	7	8	-52	4	7	9	-52	5	7	8	-54	3	5	6	-52	4	6	7	4	4	3	3
30,000	-44.5	-32	12	14	15	-33	11	13	15	-34	10	12	13	-33	11	13	14	-33	11	13	15	3	3	3	3
20,000	-21.2	-5	16	18	19	-7	14	15	16	-10	11	13	14	-8	13	15	16	-8	13	16	17	3	2	3	2
10,000	- 4.6	9	14	15	16	9	13	15	16	5	10	11	12	8	13	15	15	8	12	14	15	2	2	2	2
BRASILIA TO SAN JUAN																						2517 N.MI.			
55,000	-56.5	-78	-21	-19	-18	-77	-21	-19	-18	-72	-16	-13	-12	-76	-19	-17	-16	-76	-19	-16	-15	3	3	3	3
40,000	-56.5	-54	3	5	6	-52	4	6	7	-54	3	4	5	-54	3	4	5	-53	3	5	7	3	3	2	2
30,000	-44.5	-33	12	13	14	-31	14	15	16	-32	12	14	14	-31	14	15	16	-32	13	14	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	16	18	18	-8	14	15	15	-8	16	17	17	-6	15	17	18	2	2	2	2
10,000	- 4.6	9	14	15	16	10	14	16	16	8	13	14	15	10	15	16	16	9	14	15	16	2	2	2	2
BRASILIA TO SAO PAULO																						472 N.MI.			
55,000	-56.5	-75	-19	-16	-14	-74	-17	-15	-14	-68	-11	-8	-7	-69	-12	-10	-9	-71	-15	-11	-10	4	4	4	3
40,000	-56.5	-52	4	7	8	-52	4	7	9	-52	5	7	8	-54	3	5	6	-52	4	6	7	4	4	3	3
30,000	-44.5	-32	12	14	15	-33	11	13	14	-35	10	12	13	-33	11	13	14	-33	11	13	14	3	3	3	3
20,000	-21.2	-5	16	18	19	-8	14	15	16	-11	11	12	13	-8	13	15	16	-8	13	16	17	3	2	3	2
10,000	- 4.6	9	14	15	16	9	13	15	16	5	9	11	12	8	13	15	15	8	12	14	15	2	2	2	2
BRISBANE TO DARWIN																						1538 N.MI.			
55,000	-56.5	-78	-21	-19	-18	-76	-19	-17	-16	-74	-17	-15	-14	-74	-17	-15	-13	-75	-19	-16	-14	3	4	3	4
40,000	-56.5	-57	4	6	7	-53	3	5	6	-54	2	4	5	-54	3	5	6	-53	3	5	6	3	3	3	3
30,000	-44.5	-32	12	14	15	-34	11	12	13	-35	9	11	12	-35	10	12	13	-34	10	13	14	3	3	3	3
20,000	-21.2	-7	15	16	17	-8	13	15	15	-10	11	13	13	-10	11	13	14	-9	13	14	15	2	2	2	2
10,000	- 4.6	9	14	15	16	7	11	13	13	5	10	11	12	6	11	12	13	7	11	13	14	2	2	3	2
BRISBANE TO MELBOURNE																						744 N.MI.			
55,000	-56.5	-67	-10	-8	-6	-65	-8	-6	-4	-61	-4	-2	-1	-61	-4	-2	-1	-63	-7	-4	-3	4	4	4	3
40,000	-56.5	-55	2	4	6	-55	1	4	5	-54	3	5	7	-53	3	6	8	-54	2	6	7	4	4	4	5
30,000	-44.5	-38	7	9	10	-42	2	5	6	-45	-1	2	3	-43	2	4	5	-42	3	6	7	3	3	4	3
20,000	-21.2	-11	10	12	13	-16	5	7	9	-21	1	3	4	-17	4	6	7	-16	5	8	9	3	3	3	3
10,000	- 4.6	5	10	12	13	0	5	7	8	-4	1	3	4	-1	4	6	7	0	5	8	9	3	3	3	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BRISBANE TO MOUNT ISA																									848 N.MI.
53,000	-56.5	-75	-18	-16	-15	-73	-17	-14	-13	-70	-14	-12	-11	-70	-13	-11	-9	-72	-16	-13	-11	3	4	3	4
40,000	-56.5	-52	4	6	7	-54	3	5	6	-54	2	4	6	-54	3	5	7	-53	3	5	7	3	3	3	4
30,000	-44.5	-33	11	13	14	-36	9	11	12	-37	7	10	11	-37	7	9	11	-36	9	11	13	3	3	3	3
20,000	-21.2	-8	14	15	16	-10	11	13	14	-13	8	10	11	-12	9	11	12	-11	10	13	14	2	3	3	3
10,000	-4.6	8	13	15	15	5	9	11	11	2	7	9	10	4	9	11	12	5	10	12	13	2	2	3	3
BRISBANE TO PORT MORESBY																									1127 N.MI.
53,000	-56.5	-78	-21	-19	-18	-76	-20	-17	-16	-74	-18	-16	-15	-74	-18	-16	-14	-76	-19	-17	-16	3	4	3	3
40,000	-56.5	-52	6	6	7	-53	4	6	7	-54	2	4	5	-54	2	4	6	-53	3	5	6	2	3	3	3
30,000	-44.5	-32	13	14	15	-33	11	13	14	-35	10	12	13	-34	10	12	13	-34	11	13	14	3	3	3	3
20,000	-21.2	-6	16	17	18	-8	13	15	16	-10	12	13	14	-9	12	14	14	-8	13	15	16	2	2	2	2
10,000	-4.6	9	16	15	16	7	11	13	13	6	10	12	13	6	11	13	13	7	12	13	14	2	2	2	2
BRISBANE TO SYDNEY																									403 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-10	-7	-6	-63	-6	-4	-2	-62	-6	-4	-2	-65	-9	-6	-4	4	4	3	3
40,000	-56.5	-54	2	5	6	-55	2	4	6	-54	3	5	6	-54	3	6	8	-54	2	5	7	4	4	4	5
30,000	-44.5	-37	8	10	11	-41	4	4	7	-43	1	4	5	-42	2	5	6	-41	6	7	8	3	3	4	3
20,000	-21.2	-11	11	12	13	-15	6	8	10	-19	2	4	6	-16	5	7	8	-15	6	9	10	3	3	3	3
10,000	-4.6	6	10	12	13	1	6	8	9	-3	2	4	5	0	5	7	8	1	6	8	10	3	3	3	3
BROWNSVILLE TO MEXICO CITY																									615 N.MI.
53,000	-56.5	-75	-18	-16	-15	-73	-16	-14	-13	-73	-16	-15	-14	-77	-21	-19	-18	-74	-18	-16	-16	3	3	2	3
40,000	-56.5	-56	0	2	3	-56	1	2	3	-56	1	2	2	-54	2	3	4	-56	1	2	3	3	3	2	2
30,000	-44.5	-38	7	8	9	-37	8	9	9	-32	12	13	14	-33	11	12	13	-35	9	11	12	2	2	1	2
20,000	-21.2	-10	11	11	14	-9	13	14	15	-6	15	16	16	-7	14	16	16	-8	13	14	15	3	2	1	2
10,000	-4.6	7	11	13	14	9	14	16	17	10	15	15	16	10	14	15	16	9	14	15	15	3	3	1	2
BRUSSELS TO CAIRO																									1731 N.MI.
53,000	-56.5	-58	-2	1	3	-57	-0	2	3	-60	-3	-1	0	-61	-6	-2	-1	-59	-2	0	2	4	3	3	3
40,000	-55.5	-57	-0	3	5	-57	-0	3	5	-49	7	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-49	-5	-2	-1	-46	-1	1	3	-35	9	12	13	-42	3	5	6	-43	2	5	7	5	5	4	4
20,000	-21.2	-24	-3	0	2	-20	2	4	6	-10	11	13	14	-15	6	8	9	-17	4	7	9	3	4	3	3
10,000	-4.6	-8	-3	-0	1	-3	1	4	6	4	11	13	14	1	6	8	9	-1	4	7	9	4	4	3	3
BRUSSELS TO COLOGNE																									101 N.MI.
53,000	-56.5	-57	-0	3	5	-54	3	5	7	-50	6	9	10	-58	-1	1	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	5	9	11	-56	0	3	5	-55	1	5	8	6	6	5	5
30,000	-44.5	-51	-6	-3	-2	-48	-3	-1	1	-41	4	6	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-5	-2	1	-23	-1	2	3	-14	7	9	10	-18	3	6	8	-20	1	4	6	4	5	3	5
10,000	-4.6	-11	-6	-2	-0	-6	-2	1	3	2	6	8	10	-3	2	5	7	-5	0	4	5	6	4	3	5
BRUSSELS TO COPENHAGEN																									407 N.MI.
53,000	-56.5	-57	-0	3	5	-53	3	6	7	-49	8	10	11	-57	-1	2	3	-54	2	4	8	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	2	6	8	-50	6	10	12	-56	0	4	5	-55	2	6	8	6	6	5	5
30,000	-44.5	-51	-7	-4	-3	-49	-4	-1	-0	-41	3	6	7	-45	-0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-24	-2	1	2	-15	6	9	10	-19	2	5	7	-21	-0	3	5	6	5	3	5
10,000	-4.6	-12	-8	-4	-2	-8	-3	0	2	1	5	7	9	-5	-0	3	5	-6	-1	2	4	6	5	3	5
BRUSSELS TO DAKAR																									2416 N.MI.
53,000	-56.5	-65	-8	-5	-4	-63	-7	-4	-3	-65	-8	-6	-5	-66	-10	-8	-7	-65	-8	-6	-6	4	4	3	3
40,000	-56.5	-57	-0	3	5	-56	0	4	5	-53	4	6	7	-55	1	3	5	-55	1	4	5	5	5	3	3
30,000	-44.5	-44	0	2	4	-41	4	5	6	-36	9	11	12	-38	4	8	9	-40	5	7	9	3	3	3	3
20,000	-21.2	-18	4	6	7	-15	6	8	9	-9	12	14	14	-12	10	11	12	-13	8	10	12	3	3	2	3
10,000	-4.6	-1	4	6	8	2	6	8	9	9	14	15	14	4	9	10	11	4	8	11	12	3	3	2	3
BRUSSELS TO DUSSELDORF																									88 N.MI.
53,000	-56.5	-57	-0	1	5	-54	3	5	7	-50	6	9	10	-58	-1	2	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	1	5	8	-51	5	9	11	-56	0	3	5	-55	1	5	8	6	4	5	5
30,000	-44.5	-51	-6	-3	-2	-48	-3	-1	1	-41	4	6	8	-44	0	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	1	-23	-1	2	3	-14	7	9	10	-18	3	6	8	-20	1	4	6	6	5	3	5
10,000	-4.6	-11	-6	-2	-0	-6	-2	1	3	1	6	8	9	-3	2	5	7	-5	-0	3	5	6	4	3	5
BRUSSELS TO FRANKFURT																									164 N.MI.
53,000	-56.5	-57	-0	1	5	-54	3	5	7	-51	6	8	10	-58	-1	1	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	5	9	10	-56	0	3	5	-55	1	5	8	6	6	5	5
30,000	-44.5	-51	-6	-3	-2	-48	-3	-1	1	-40	4	7	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-5	-2	1	-22	-1	2	4	-14	7	9	11	-18	3	6	8	-20	1	4	6	6	5	3	5
10,000	-4.6	-11	-6	-2	-0	-6	-2	1	3	2	6	9	10	-2	2	5	7	-4	0	4	6	6	4	3	5
BRUSSELS TO GENEVA																									287 N.MI.
53,000	-56.5	-57	-0	3	5	-54	2	5	6	-52	4	7	8	-58	-2	1	2	-55	1	4	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-0	4	6	-52	4	8	9	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-6	-3	-1	-47	-3	-0	1	-40	5	7	8	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-0	2	4	-13	8	10	11	-17	4	7	8	-20	2	5	7	5	4	3	4
10,000	-4.6	-9	-5	-1	1	-5	-1	2	1	3	7	9	11	-2	3	6	7	-4	1	5	6	5	4	3	4
BRUSSELS TO GLASGOW																									431 N.MI.
53,000	-56.5	-57	-1	2	4	-53	3	6	7	-49	7	10	11	-57	-1	2	4	-54	2	6	8	5	4	4	4
40,000	-56.5	-58	-2	3	5	-55	2	7	9	-50	6	10	12	-56	0	6	6	-55	2	7	9	6	7	6	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	1	-41	3	6	7	-45	-0	3	4	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-5	-1	1	-23	-2	1	3	-15	6	8	10	-19	2	5	7	-21	0	4	6	6	5	3	5
10,000	-4.6	-10	-5	-2	0	-7	-2	0	2	0	5	7	8	-3	1	4	6	-5	-0	3	5	5	4	3	5
BRUSSELS TO HAMBURG																									260 N.MI.
53,000	-56.5	-57	-0	3	5	-53	3	6	7	-50	7	9	11	-57	-1	2	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	2	6	8	-51	6	9	11	-56	0	4	5	-55	1	4	8	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-4	-1	0	-41	4	6	7	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-6	-2	-0	-23	-2	1	3	-15	7	9	10	-19	2	6	8	-21	0	4	6	6	5	3	5
10,000	-4.6	-12	-7	-3	-1	-7	-2	1	2	1	6	8	9	-4	1	4	6	-5	-1	3	5	4	4	3	5
BRUSSELS TO HELSINKI																									889 N.MI.
53,000	-56.5	-57	-1	2	4	-53	4	6	8	-48	9	11	12	-56	0	3	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	3	7	9	-50	7	10	12	-56	1	4	6	-55	2	6	9	5	6	5	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-42	3	6	7	-45	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-30	-8	-4	-2	-25	-4	-0	2	-15	6	8	9	-20	1	4	6	-23	-1	3	5	6	5	3	5
10,000	-4.6	-14	-9	-5	-3	-9	-4	-1	1	-0	5	7	8	-6	-1	2	4	-7	-3	1	3	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY				APRIL				JULY				OCTOBER				ANNUAL				STANDARD DEVIATION			
		50*	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
BRUSSELS TO ISTANBUL																									1169 N.MI.
55,000	-56.5	-56	0	4	5	-55	2	4	6	-53	3	6	7	-59	-2	0	2	-56	1	4	5	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	0	4	6	-50	6	9	11	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-3	-47	-3	-0	1	-39	6	8	10	-43	2	4	5	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-22	-0	3	4	-12	9	11	12	-17	4	7	8	-19	2	5	7	5	4	3	4
10,000	- 4.6	-11	-7	-3	-1	-5	-1	2	4	3	8	10	11	-2	3	6	7	-4	1	4	6	5	4	3	4
BRUSSELS TO KANO																									2339 N.MI.
55,000	-56.5	-65	-9	-6	-5	-64	-7	-5	-4	-66	-10	-8	-7	-67	-10	-8	-7	-66	-9	-7	-5	4	3	3	3
40,000	-56.5	-56	1	4	5	-55	2	5	6	-52	5	7	8	-55	2	4	5	-54	2	5	6	4	5	3	3
30,000	-44.5	-44	0	2	3	-40	4	6	7	-54	10	12	13	-38	6	8	9	-39	5	8	10	3	3	3	3
20,000	-21.2	-18	3	6	7	-15	7	9	10	-8	13	15	16	-12	10	11	12	-13	8	11	12	3	3	2	2
10,000	- 4.6	-1	4	6	7	3	7	9	10	10	15	17	17	5	9	11	12	4	9	12	13	3	3	2	3
BRUSSELS TO KEFLAVIK																									1159 N.MI.
55,000	-56.5	-58	-1	2	4	-51	5	8	9	-47	9	12	13	-56	1	4	5	-53	4	7	9	5	4	3	4
40,000	-56.5	-57	-1	4	6	-52	4	9	12	-49	8	12	14	-55	2	6	8	-53	3	8	11	7	7	6	6
30,000	-44.5	-51	-7	-4	-3	-48	-3	-1	1	-43	2	4	6	-46	-1	2	3	-47	-2	1	3	4	4	4	5
20,000	-21.2	-28	-7	-3	-1	-25	-4	-1	1	-17	4	7	8	-21	-0	4	6	-23	-2	2	4	6	5	4	6
10,000	- 4.6	-12	-7	-4	-2	-10	-5	-2	-0	-2	3	5	6	-5	-1	2	4	-7	-3	1	3	5	5	3	5
BRUSSELS TO LEOPOLDVILLE																									3365 N.MI.
55,000	-56.5	-69	-12	-10	-9	-68	-11	-9	-8	-69	-13	-11	-10	-70	-13	-11	-10	-69	-12	-10	-9	3	3	3	3
40,000	-56.5	-55	1	4	5	-54	3	5	7	-52	5	6	7	-54	3	4	5	-54	3	5	6	4	4	3	3
30,000	-44.5	-41	4	5	6	-37	7	9	10	-33	11	13	14	-36	9	10	11	-37	8	10	11	2	2	2	3
20,000	-21.2	-14	7	9	10	-12	10	11	12	-7	14	16	16	-10	11	13	13	-11	10	13	14	3	3	2	2
10,000	- 4.6	2	7	9	10	5	9	11	12	10	14	16	17	6	11	12	13	6	10	13	14	3	3	2	2
BRUSSELS TO LISBON																									927 N.MI.
55,000	-56.5	-58	-2	1	3	-56	0	3	5	-55	1	4	5	-60	-3	-1	1	-57	-1	2	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-53	3	6	8	-56	0	3	5	-56	0	4	6	6	6	5	4
30,000	-44.5	-48	-4	-1	0	-46	-2	1	2	-38	6	8	10	-42	2	5	6	-44	1	4	6	4	4	3	4
20,000	-21.2	-23	-2	1	3	-20	1	4	5	-12	9	11	12	-16	5	8	9	-18	3	7	8	5	4	3	4
10,000	- 4.6	-6	-2	2	3	-3	1	4	5	5	9	11	12	-0	4	7	8	-1	3	7	8	5	4	3	4
BRUSSELS TO LONDON																									189 N.MI.
55,000	-56.5	-57	-1	3	4	-54	3	5	7	-50	6	9	10	-58	-1	2	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	5	-55	1	6	8	-51	5	9	11	-56	0	4	5	-55	1	6	8	6	7	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-0	1	-41	4	6	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-14	7	9	10	-18	3	6	8	-20	1	4	6	6	5	3	5
10,000	- 4.6	-10	-5	-1	1	-6	-2	1	3	1	6	8	9	-2	2	5	7	-4	0	4	6	5	4	3	4
BRUSSELS TO LOS ANGELES																									4885 N.MI.
55,000	-56.5	-58	-1	3	4	-52	4	7	8	-51	6	8	9	-56	0	3	4	-54	2	5	7	5	4	3	4
40,000	-56.5	-55	1	6	8	-53	4	8	10	-50	6	10	11	-53	3	7	9	-53	4	7	9	6	6	5	5
30,000	-44.5	-52	-8	-5	-4	-49	-4	-2	-0	-42	3	5	6	-46	-2	1	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-31	-10	-6	-4	-26	-5	-2	0	-16	5	8	9	-22	-1	3	5	-24	-3	1	4	6	5	4	6
10,000	- 4.6	-16	-12	-8	-6	-11	-6	-3	-1	0	5	7	9	-7	-2	1	3	-8	-4	0	3	6	5	4	6
BUCHAREST TO BUDAPEST																									335 N.MI.
55,000	-56.5	-56	1	4	6	-55	2	4	6	-53	4	6	7	-58	-2	1	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	0	4	5	-50	7	9	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-52	-7	-4	-3	-47	-3	-0	1	-39	6	8	10	-43	2	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-0	3	4	-12	9	11	12	-17	4	7	8	-20	2	5	7	5	5	3	4
10,000	- 4.6	-12	-8	-4	-2	-6	-1	2	4	3	7	9	11	-2	3	5	7	-4	0	4	6	5	5	3	4
BUCHAREST TO CAIRO																									898 N.MI.
55,000	-56.5	-60	-3	-0	1	-58	-2	0	2	-64	-7	-5	-4	-62	-6	-4	-2	-61	-4	-2	-0	4	3	3	3
40,000	-56.5	-56	1	4	5	-56	0	4	5	-47	9	11	12	-56	0	3	4	-54	3	6	8	4	5	3	3
30,000	-44.5	-48	-4	-2	-1	-45	-0	2	3	-32	13	15	16	-41	4	6	7	-41	3	7	9	3	3	3	3
20,000	-21.2	-23	-1	1	3	-19	3	5	7	-8	13	15	16	-14	7	9	10	-16	5	9	11	4	4	3	3
10,000	- 4.6	-7	-3	0	1	-2	3	6	7	8	12	14	15	3	7	9	10	0	5	8	10	4	4	3	3
BUCHAREST TO COLOGNE																									852 N.MI.
55,000	-56.5	-56	1	4	6	-54	2	5	6	-52	5	7	8	-58	-2	1	2	-55	2	5	6	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	0	4	6	-51	6	9	10	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-48	-3	-1	1	-39	5	8	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	4	-13	8	10	11	-18	4	7	8	-20	1	5	7	5	4	3	4
10,000	- 4.6	-12	-7	-4	-2	-6	-2	2	3	2	7	9	10	-2	2	5	7	-5	0	4	6	5	5	3	4
BUCHAREST TO COPENHAGEN																									841 N.MI.
55,000	-56.5	-56	1	4	5	-54	3	5	7	-50	6	9	10	-57	-1	2	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	5	7	-50	5	9	11	-56	0	3	5	-55	2	6	8	5	5	4	4
30,000	-44.5	-52	-7	-5	-4	-48	-4	-1	0	-40	4	7	8	-44	1	3	5	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-14	7	10	11	-18	3	6	0	-21	0	4	6	6	5	3	5
10,000	- 4.6	-13	-9	-5	-3	-7	-3	1	2	1	6	8	9	-4	1	4	6	-6	-1	3	4	6	5	3	5
BUCHAREST TO DHAHRAN																									1596 N.MI.
55,000	-56.5	-61	-5	-2	-1	-60	-4	-1	-0	-66	-9	-7	-6	-64	-7	-5	-4	-63	-6	-3	-2	4	3	3	4
40,000	-56.5	-55	1	4	5	-55	2	5	7	-47	10	12	13	-56	1	3	4	-53	3	7	9	4	5	3	3
30,000	-44.5	-47	-3	-0	1	-43	1	4	5	-30	15	17	18	-40	5	7	8	-40	5	9	11	3	3	3	3
20,000	-21.2	-21	-0	2	4	-17	4	7	8	-6	16	18	19	-13	8	10	11	-14	7	11	13	4	4	3	3
10,000	- 4.6	-6	-1	2	3	0	5	8	9	11	15	17	18	4	8	11	12	2	7	10	12	4	4	3	3
BUCHAREST TO DUSSELDORF																									874 N.MI.
55,000	-56.5	-56	1	4	6	-54	2	5	6	-51	5	7	9	-58	-2	1	2	-55	2	5	6	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	1	4	6	-51	6	9	10	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-48	-3	-1	1	-40	5	7	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	4	-13	8	10	11	-18	4	6	8	-20	1	5	7	5	5	3	4
10,000	- 4.6	-12	-7	-4	-2	-6	-2	1	3	2	7	9	10	-2	2	5	7	-5	-0	4	5	5	5	3	4
BUCHAREST TO FRANKFURT																									784 N.MI.
55,000	-56.5	-56	1	4	6	-54	2	5	6	-52	5	7	8	-58	-2	1	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	0	4	6	-51	6	9	10	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-48	-3	-1	1	-39	5	8	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	4	-13	8	10	11	-17	4	7	8	-20	1	5	7	5	4	3	4
10,000	- 4.6	-12	-7	-4	-2	-6	-1	2	3	2	7	9	10	-2	2	5	7	-4	0	4	6	5	5	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D95	APRIL 50	D50	D75	D95	JULY 50	D50	D75	D95	OCTOBER 50	D50	D75	D95	ANNUAL 50	D50	D75	D95	STANDARD DEVIATION JAN	APR	JUL	OCT
BUCHAREST TO GENEVA																									046 N.MI.
55,000	-56.5	-56	1	4	6	-55	2	4	6	-53	3	6	7	-59	-2	0	2	-56	1	4	5	5	4	3	4
40,000	-56.5	-58	-1	2	4	-57	-0	3	5	-51	5	8	10	-56	0	3	4	-56	1	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-47	-3	-0	1	-39	6	0	10	-43	2	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-21	-0	3	4	-12	9	11	12	-17	4	7	8	-19	2	5	7	5	4	3	4
10,000	-4.6	-11	-6	-3	-1	-5	-1	2	4	3	8	10	11	-2	3	6	7	-4	1	5	6	5	4	3	4
BUCHAREST TO GLASGOW																									1335 N.MI.
55,000	-56.5	-56	0	3	5	-54	3	5	7	-50	6	9	10	-58	-1	2	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	5	7	-50	6	10	11	-56	0	3	5	-55	2	6	8	6	6	5	5
30,000	-44.5	-51	-7	-4	-3	-48	-3	-1	1	-40	4	7	8	-44	0	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-23	-2	1	3	-14	7	9	10	-18	3	6	8	-21	0	4	6	6	5	3	5
10,000	-4.6	-12	-7	-4	-2	-7	-2	1	2	1	6	8	9	-3	1	4	6	-5	-1	3	5	5	5	3	5
BUCHAREST TO HAMBURG																									854 N.MI.
55,000	-56.5	-56	1	4	5	-54	3	5	6	-51	6	8	9	-58	-1	1	3	-55	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	4	6	-50	6	9	11	-56	0	3	5	-55	1	5	7	5	5	4	4
30,000	-44.5	-52	-7	-5	-3	-48	-4	-1	0	-40	5	7	9	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-28	-6	-3	-1	-23	-1	2	3	-13	8	10	11	-18	3	6	8	-20	1	4	6	6	5	1	5
10,000	-4.6	-13	-8	-4	-2	-7	-2	1	3	2	6	8	10	-3	1	4	6	-5	-1	3	5	6	5	3	5
BUCHAREST TO HELSINKI																									950 N.MI.
55,000	-56.5	-56	0	4	5	-53	3	6	7	-49	8	10	11	-57	-0	2	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-55	2	5	7	-50	7	10	11	-55	1	4	6	-55	2	6	8	5	5	4	4
30,000	-44.5	-53	-8	-6	-4	-49	-4	-1	0	-40	4	7	8	-45	-0	3	4	-47	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-24	-2	1	3	-14	7	9	11	-19	2	5	7	-22	-0	3	6	6	5	3	5
10,000	-4.6	-15	-10	-6	-4	-8	-3	0	2	1	5	7	9	-5	-0	3	5	-7	-2	2	4	6	5	1	5
BUCHAREST TO ISTANBUL																									244 N.MI.
55,000	-56.5	-56	0	3	5	-55	1	3	5	-56	0	2	3	-59	-3	-1	1	-57	-0	2	4	4	3	3	4
40,000	-56.5	-57	-1	3	4	-56	0	4	5	-48	8	11	12	-56	0	3	4	-54	2	6	8	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-46	-2	0	2	-36	8	11	12	-42	2	5	6	-44	0	4	6	3	4	4	3
20,000	-21.2	-26	-5	-2	0	-21	1	4	5	-11	10	12	13	-16	5	7	9	-18	3	6	8	5	5	3	3
10,000	-4.6	-11	-6	-3	-1	-4	1	4	5	4	9	11	12	-1	4	7	8	-3	2	5	7	5	5	3	4
BUCHAREST TO KARACHI																									2509 N.MI.
55,000	-56.5	-62	-5	-2	-1	-61	-4	-2	-0	-66	-9	-7	-5	-64	-7	-5	-3	-65	-6	-3	-2	4	4	4	4
40,000	-56.5	-55	1	4	6	-55	2	5	7	-47	10	12	13	-55	1	4	5	-53	3	7	9	4	5	4	4
30,000	-44.5	-46	-2	1	2	-42	2	5	6	-30	15	17	19	-39	5	8	9	-39	5	9	12	4	4	3	4
20,000	-21.2	-21	-0	3	4	-16	6	8	10	-5	16	18	19	-15	8	10	12	-14	7	11	13	4	4	3	3
10,000	-4.6	-6	-1	2	4	2	6	9	10	11	16	18	19	4	8	11	12	3	7	11	13	5	4	3	4
BUCHAREST TO LISBON																									1605 N.MI.
55,000	-56.5	-57	-1	2	4	-56	0	3	4	-57	-0	2	3	-60	-4	-1	0	-58	-1	2	3	5	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	4	-52	5	7	9	-56	0	3	4	-56	1	4	6	5	5	4	4
30,000	-44.5	-49	-4	-2	-1	-46	-2	1	2	-38	7	9	10	-42	3	5	7	-44	1	4	6	4	4	3	4
20,000	-21.2	-24	-3	1	2	-20	1	4	5	-11	10	12	13	-16	6	8	9	-10	4	7	9	5	4	3	4
10,000	-4.6	-7	-3	0	2	-3	2	4	6	6	10	12	14	-0	5	7	8	-1	3	7	9	5	4	3	4
BUCHAREST TO LONDON																									1137 N.MI.
55,000	-56.5	-56	0	4	5	-54	2	5	6	-51	5	7	9	-58	-2	1	2	-55	2	5	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	1	4	6	-51	6	9	10	-56	0	3	5	-55	1	5	7	5	5	5	4
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	1	-40	5	7	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-22	-1	2	4	-13	8	10	11	-18	4	7	8	-20	1	5	7	5	5	3	4
10,000	-4.6	-11	-7	-3	-1	-6	-1	2	3	2	7	9	10	-2	2	5	7	-4	0	4	6	5	4	3	4
BUCHAREST TO MADRID																									1527 N.MI.
55,000	-56.5	-57	-0	3	5	-56	1	3	5	-56	0	3	4	-60	-3	-1	0	-57	-1	2	4	5	4	3	4
40,000	-56.5	-58	-1	2	4	-57	-1	3	4	-52	5	8	9	-56	0	3	4	-56	1	4	6	5	5	4	4
30,000	-44.5	-49	-5	-2	-1	-46	-2	1	2	-38	7	9	10	-42	2	5	6	-44	1	4	6	4	4	1	4
20,000	-21.2	-25	-3	-0	2	-20	1	4	5	-11	10	12	13	-16	5	0	9	-18	3	7	8	5	4	3	4
10,000	-4.6	-8	-4	-0	1	-4	1	4	5	5	10	12	13	-0	4	7	0	-2	3	6	8	5	4	3	4
BUCHAREST TO MOSCOW																									812 N.MI.
55,000	-56.5	-56	1	4	6	-53	3	6	7	-49	7	9	11	-57	-0	2	4	-54	3	6	0	5	4	3	4
40,000	-56.5	-58	-2	1	3	-55	1	5	7	-49	7	10	11	-55	1	4	6	-54	2	6	8	5	5	4	4
30,000	-44.5	-53	-8	-6	-4	-47	-3	-0	2	-39	5	8	9	-44	1	3	5	-46	-1	3	5	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-22	-1	2	4	-15	8	10	11	-19	2	6	7	-21	0	4	6	6	5	3	5
10,000	-4.6	-14	-9	-6	-4	-6	-2	2	4	1	6	8	9	-4	0	4	5	-6	-1	2	4	6	5	3	5
BUCHAREST TO MUNICH																									615 N.MI.
55,000	-56.5	-56	1	4	6	-55	2	4	6	-52	4	6	8	-58	-2	1	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	0	3	5	-50	6	9	10	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-47	-3	-0	1	-39	6	8	9	-43	2	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	4	-13	9	11	12	-17	4	7	8	-20	2	5	7	5	4	3	4
10,000	-4.6	-12	-7	-4	-2	-6	-1	2	3	3	7	10	11	-2	3	5	7	-4	0	4	6	5	5	3	4
BUCHAREST TO OSLO																									1079 N.MI.
55,000	-56.5	-56	0	3	5	-53	3	6	7	-49	7	10	11	-57	-1	2	3	-54	3	6	7	5	4	3	4
40,000	-56.5	-58	-2	2	3	-55	2	6	7	-50	7	10	12	-56	0	4	5	-55	2	6	8	5	5	5	5
30,000	-44.5	-52	-8	-5	-4	-49	-4	-2	-0	-41	4	6	8	-45	-0	3	4	-47	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-24	-3	1	2	-14	7	9	10	-19	2	5	7	-22	-0	3	5	6	5	3	5
10,000	-4.6	-14	-9	-5	-3	-8	-3	-0	2	1	5	8	9	-5	-0	3	5	-6	-2	2	4	6	5	3	5
BUCHAREST TO PARIS																									1004 N.MI.
55,000	-56.5	-56	0	4	5	-54	2	5	6	-52	4	7	8	-58	-2	1	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	0	4	5	-51	5	8	10	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-47	-3	-0	1	-39	5	8	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-5	-2	0	-22	-1	2	4	-15	8	10	11	-17	4	7	0	-20	2	5	7	5	4	3	4
10,000	-4.6	-11	-6	-3	-1	-6	-1	2	3	3	7	9	11	-2	3	6	7	-4	1	4	6	5	4	3	4
BUCHAREST TO PRAGUE																									585 N.MI.
55,000	-56.5	-56	1	4	6	-54	2	5	6	-52	5	7	8	-58	-2	1	2	-55	2	4	6	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	1	4	6	-50	6	9	11	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-52	-7	-4	-3	-48	-3	-1	1	-39	5	8	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	4	-13	8	10	11	-18	4	7	8	-20	1	5	7	5	5	3	4
10,000	-4.6	-12	-8	-4	-2	-6	-2	2	3	2	7	9	10	-2	2	5	7	-5	-0	4	5	5	5	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50*	050	075	085	APRIL 50	050	075	085	JULY 50	050	075	085	OCTOBER 50	050	075	085	ANNUAL 50	050	075	085	STANDARD DEVIATION JAN	APR	JUL	OCT
BUCHAREST TO ROME																									611 N.MI.
53,000	-56.5	-56	0	4	5	-55	1	4	5	-56	1	3	4	-59	-3	-1	1	-57	-0	3	4	5	4	3	4
40,000	-56.5	-57	-1	3	4	-57	-1	3	5	-50	7	9	11	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-47	-2	0	2	-38	7	9	10	-42	2	5	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-4	-1	0	-21	1	3	5	-11	10	12	15	-16	5	7	9	-18	3	6	8	5	4	3	4
10,000	-4.6	-10	-5	-2	-1	-4	0	3	5	4	9	11	12	-1	4	6	8	-3	2	5	7	5	4	3	4
BUCHAREST TO SHANNON																									1456 N.MI.
53,000	-56.5	-56	0	3	5	-54	3	5	6	-51	5	8	9	-58	-1	1	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	6	9	11	-56	0	3	5	-55	1	5	8	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-3	-0	1	-40	4	7	8	-44	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-5	-2	0	-22	-1	2	4	-14	8	10	11	-18	3	6	8	-20	1	5	6	6	5	3	5
10,000	-4.6	-11	-6	-3	-1	-6	-2	1	3	2	6	9	10	-2	2	5	7	-4	0	4	6	5	4	3	4
BUCHAREST TO STOCKHOLM																									956 N.MI.
53,000	-56.5	-56	0	4	5	-53	3	6	7	-49	7	10	11	-57	-0	2	3	-54	3	6	7	5	4	3	4
40,000	-56.5	-58	-2	1	3	-55	2	5	7	-50	7	10	11	-56	1	4	5	-55	2	6	8	5	5	5	4
30,000	-44.5	-53	-8	-5	-4	-49	-4	-2	-0	-40	4	7	8	-44	0	3	4	-47	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-24	-2	1	3	-14	7	9	10	-19	2	5	7	-21	-0	3	5	6	5	3	5
10,000	-4.6	-14	-10	-6	-4	-8	-3	0	2	1	6	8	9	-5	-0	3	5	-6	-2	2	4	6	5	3	5
BUCHAREST TO TEHERAN																									1266 N.MI.
53,000	-56.5	-57	-1	2	3	-56	0	2	4	-60	-4	-2	-0	-60	-4	-1	0	-59	-2	1	2	4	3	3	4
40,000	-56.5	-56	0	3	5	-55	1	4	6	-47	9	12	13	-56	0	3	4	-54	3	6	8	4	5	3	3
30,000	-44.5	-50	-5	-3	-2	-45	-0	2	3	-32	12	15	16	-42	3	5	6	-42	2	7	9	4	4	4	3
20,000	-21.2	-25	-4	-1	1	-19	2	5	7	-8	14	16	17	-15	6	8	9	-17	5	8	11	4	4	3	3
10,000	-4.6	-9	-5	-1	1	-2	3	6	7	8	12	14	15	1	6	9	10	-1	4	8	10	5	4	3	4
BUCHAREST TO TEL AVIV-JAFFA																									856 N.MI.
53,000	-56.5	-59	-2	1	2	-58	-1	1	2	-63	-7	-4	-3	-62	-5	-3	-2	-60	-4	-1	0	4	3	3	3
40,000	-56.5	-56	0	1	5	-56	0	4	6	-47	9	11	12	-56	0	2	4	-54	3	6	8	4	5	3	3
30,000	-44.5	-49	-5	-2	-1	-45	-1	2	3	-52	12	14	16	-41	3	6	7	-42	3	7	9	3	3	3	3
20,000	-21.2	-23	-2	1	2	-19	2	5	6	-8	13	15	16	-15	7	9	10	-16	5	9	10	4	4	3	3
10,000	-4.6	-8	-1	-1	1	-2	3	5	7	7	12	14	15	2	7	9	10	-0	5	8	10	4	4	3	3
BUCHAREST TO VIENNA																									450 N.MI.
53,000	-56.5	-56	1	4	6	-54	2	4	6	-52	4	6	8	-56	-2	1	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-1	2	4	-46	0	4	5	-50	7	9	11	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-47	-3	-0	1	-39	6	8	10	-45	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	4	-13	9	11	12	-17	4	7	8	-20	2	5	7	5	5	3	4
10,000	-4.6	-12	-8	-4	-2	-6	-1	2	4	3	7	9	11	-2	2	5	7	-4	0	4	6	5	5	3	4
BUCHAREST TO WARSAW																									503 N.MI.
53,000	-56.5	-56	1	4	6	-54	3	5	6	-51	6	8	9	-58	-1	1	3	-55	2	5	7	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	1	4	6	-50	7	9	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-52	-7	-5	-4	-48	-3	-1	1	-39	5	8	9	-43	1	4	5	-46	-1	3	5	4	4	4	4
20,000	-21.2	-28	-6	-3	-1	-22	-1	2	4	-13	8	10	11	-18	3	6	8	-20	1	5	A	5	5	3	4
10,000	-4.A	-13	-8	-5	-3	-6	-2	1	3	2	7	9	10	-5	1	5	6	-5	-1	3	5	5	5	3	5
BUCHAREST TO ZURICH																									750 N.MI.
53,000	-56.5	-56	1	4	6	-55	2	4	6	-55	4	A	7	-59	-2	0	2	-55	1	4	5	5	4	3	4
40,000	-56.5	-58	-1	2	4	-57	-0	3	5	-51	6	9	10	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-47	-3	-0	1	-39	6	8	9	-45	2	4	6	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-5	-2	-0	-22	-0	1	4	-13	9	11	12	-17	4	7	8	-19	2	5	7	5	4	3	4
10,000	-4.6	-11	-7	-3	-1	-6	-1	2	4	5	8	10	11	-2	3	6	7	-4	1	4	6	5	4	3	4
BUDAPEST TO CAIRO																									1180 N.MI.
53,000	-56.5	-59	-2	0	2	-58	-1	1	2	-62	-5	-3	-2	-62	-5	-3	-2	-60	-3	-1	1	4	3	3	3
40,000	-56.5	-56	0	1	5	-56	0	3	5	-48	8	11	12	-56	0	3	4	-54	2	6	8	5	5	3	3
30,000	-44.5	-49	-4	-2	-1	-45	-1	2	3	-33	11	13	14	-41	3	6	7	-42	2	6	8	3	3	3	3
20,000	-21.2	-23	-2	1	2	-19	2	5	6	-9	13	14	15	-15	6	A	10	-16	5	8	10	4	4	3	3
10,000	-4.6	-8	-1	-1	1	-2	2	5	6	7	11	13	14	2	6	9	10	-0	4	7	9	4	4	3	3
BUDAPEST TO COLOGNE																									516 N.MI.
53,000	-56.5	-56	1	4	6	-54	2	5	6	-51	6	8	9	-58	-1	1	3	-55	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	1	4	6	-51	5	8	10	-56	0	3	5	-55	1	5	7	5	5	5	4
30,000	-44.5	-51	-7	-4	-3	-48	-3	-1	1	-40	4	7	8	-44	1	4	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	3	-14	8	10	11	-18	3	A	8	-20	1	4	6	6	4	3	5
10,000	-4.6	-12	-7	-4	-2	-6	-2	1	3	2	7	9	10	-3	2	5	7	-5	-0	3	5	6	4	3	5
BUDAPEST TO COPENHAGEN																									548 N.MI.
53,000	-56.5	-56	0	4	5	-55	3	6	7	-49	7	9	11	-57	-1	2	3	-54	2	6	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	5	7	-51	6	9	11	-56	0	3	5	-55	1	A	8	5	5	5	5
30,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-0	-41	4	6	8	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-14	7	9	10	-19	2	6	7	-21	0	4	6	6	5	3	5
10,000	-4.6	-13	-9	-5	-3	-8	-1	0	2	1	6	8	9	-4	0	4	5	-6	-1	2	4	6	5	1	5
BUDAPEST TO DHAHRAN																									1931 N.MI.
53,000	-56.5	-60	-4	-1	1	-59	-3	-0	1	-64	-7	-5	-4	-63	-6	-4	-3	-61	-5	-2	-1	4	3	3	4
40,000	-56.5	-56	1	4	5	-55	1	5	6	-47	9	11	13	-56	1	3	4	-53	3	6	8	4	5	3	3
30,000	-44.5	-48	-3	-1	0	-44	1	3	4	-31	13	15	16	-40	4	7	8	-41	4	A	10	3	1	3	3
20,000	-21.2	-22	-1	2	3	-18	3	6	7	-7	14	16	17	-14	7	9	11	-15	6	10	12	4	4	3	3
10,000	-4.6	-7	-2	1	2	-1	4	7	8	9	14	16	17	3	7	10	11	1	6	9	11	4	4	3	3
BUDAPEST TO DUSSELDORF																									539 N.MI.
53,000	-56.5	-56	1	4	6	-54	3	5	6	-51	6	8	9	-58	-1	1	3	-55	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	1	4	6	-51	5	8	10	-56	0	3	5	-55	1	5	7	5	5	3	4
30,000	-44.5	-51	-7	-4	-3	-48	-3	-1	1	-40	4	7	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-23	-1	2	3	-14	A	10	11	-18	3	6	8	-20	1	4	6	6	4	3	5
10,000	-4.6	-12	-7	-4	-2	-7	-2	1	1	2	7	9	10	-3	2	5	7	-5	-0	3	5	6	5	3	5
BUDAPEST TO FRANKFURT																									450 N.MI.
53,000	-56.5	-56	1	4	6	-54	2	5	6	-51	5	8	9	-58	-1	1	2	-55	2	5	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	0	4	6	-51	5	8	10	-55	0	3	5	-55	1	5	7	5	5	3	4
30,000	-44.5	-51	-7	-4	-3	-48	-3	-1	1	-40	5	7	8	-43	1	4	5	-46	-1	3	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	3	-15	8	10	11	-18	3	6	8	-20	1	5	6	6	4	3	4
10,000	-4.6	-12	-7	-4	-2	-6	-2	1	3	2	7	9	10	-2	2	5	7	-5	-0	4	6	6	4	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BUDAPEST TO GENEVA																									543 N.MI.
53,000	-56.5	-56	1	4	6	-55	2	4	6	-53	4	6	8	-59	-2	0	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-0	3	5	-52	5	7	9	-56	0	3	4	-56	1	4	6	5	5	4	4
30,000	-44.5	-51	-6	-3	-2	-47	-3	-0	1	-39	5	8	9	-43	1	4	6	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-5	-2	0	-22	-0	2	4	-15	8	11	12	-17	4	7	8	-20	2	5	7	5	4	3	4
10,000	-4.6	-10	-6	-2	-0	-6	-1	2	3	3	8	10	11	-2	3	6	7	-4	1	4	6	5	4	3	4
BUDAPEST TO GLASGOW																									1005 N.MI.
53,000	-56.5	-57	-0	3	5	-53	3	6	7	-49	7	9	11	-57	-1	2	3	-54	2	6	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	2	6	8	-50	6	10	11	-56	0	4	5	-55	2	6	8	6	6	5	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-41	4	6	8	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-23	-2	1	3	-15	7	9	10	-19	2	6	7	-21	0	4	6	6	5	3	5
10,000	-4.6	-12	-7	-3	-1	-7	-3	0	2	1	6	8	9	-4	1	4	6	-5	-1	3	5	5	5	3	5
BUDAPEST TO HAMBURG																									512 N.MI.
53,000	-56.5	-56	0	4	5	-54	3	5	7	-50	7	9	10	-58	-1	2	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	5	7	-51	6	9	11	-56	0	3	5	-55	1	5	8	5	5	5	4
30,000	-44.5	-52	-7	-4	-3	-48	-4	-1	0	-40	4	7	8	-44	1	3	5	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-14	7	9	11	-18	3	6	8	-21	0	4	6	6	5	3	5
10,000	-4.6	-15	-8	-4	-2	-7	-3	1	2	1	6	8	9	-4	1	4	6	-5	-1	3	5	6	5	3	5
BUDAPEST TO HELSINKI																									798 N.MI.
53,000	-56.5	-56	0	3	5	-53	3	6	7	-48	8	10	12	-56	0	3	4	-53	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-55	2	6	8	-50	6	10	11	-56	1	4	6	-55	2	6	8	5	5	5	5
30,000	-44.5	-53	-8	-6	-4	-49	-5	-2	-1	-41	4	6	8	-45	-0	2	4	-47	-2	1	4	4	4	4	4
20,000	-21.2	-30	-8	-4	-2	-24	-3	0	2	-15	7	9	10	-20	1	5	7	-22	-1	3	5	6	5	3	5
10,000	-4.6	-15	-10	-6	-4	-9	-4	-1	1	0	5	7	8	-5	-1	3	4	-7	-3	1	3	6	5	3	5
BUDAPEST TO ISTANBUL																									565 N.MI.
53,000	-56.5	-56	1	4	5	-55	2	4	5	-55	2	4	5	-59	-2	-0	1	-56	0	3	4	5	4	3	4
40,000	-56.5	-57	-1	2	4	-56	0	3	5	-49	7	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-47	-2	0	1	-38	7	9	11	-43	2	4	6	-45	-0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-2	-0	-21	0	3	5	-12	10	11	13	-17	5	7	8	-19	2	6	8	5	5	3	4
10,000	-4.6	-11	-7	-4	-2	-5	-0	3	4	4	8	10	11	-1	3	6	8	-3	1	5	7	5	5	3	4
BUDAPEST TO KANO																									2191 N.MI.
53,000	-56.5	-66	-9	-7	-6	-64	-8	-6	-5	-68	-11	-9	-8	-68	-11	-9	-8	-66	-10	-7	-6	3	5	3	3
40,000	-56.5	-55	1	4	6	-55	2	5	6	-50	6	8	9	-55	2	4	5	-54	3	5	6	4	4	2	3
30,000	-44.5	-44	0	2	3	-40	5	7	8	-33	12	13	14	-38	7	9	10	-39	6	9	10	3	3	3	3
20,000	-21.2	-17	4	6	7	-14	7	9	10	-7	14	15	16	-11	10	11	12	-13	9	11	12	3	3	2	2
10,000	-4.6	-1	4	6	7	3	8	10	11	11	15	17	18	5	10	11	12	4	9	12	13	3	3	2	2
BUDAPEST TO KEFLAVIK																									1680 N.MI.
53,000	-56.5	-57	-1	3	5	-52	5	7	9	-48	9	11	12	-56	0	3	5	-53	3	7	8	5	4	3	4
40,000	-56.5	-58	-1	3	5	-53	4	8	10	-49	7	11	13	-55	1	5	7	-54	3	7	10	6	6	5	6
30,000	-44.5	-52	-7	-5	-3	-48	-4	-1	0	-42	2	5	6	-46	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-25	-4	-1	1	-16	5	7	8	-21	0	4	6	-23	-2	2	4	6	5	4	5
10,000	-4.6	-15	-8	-5	-3	-9	-5	-2	0	-1	4	6	7	-6	-1	2	4	-7	-3	1	3	5	5	3	5
BUDAPEST TO LISBON																									1558 N.MI.
53,000	-56.5	-58	-1	2	4	-56	0	3	5	-56	1	3	4	-60	-3	-1	0	-57	-1	2	3	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	2	4	-53	4	6	8	-56	0	3	4	-56	0	4	6	6	5	4	4
30,000	-44.5	-49	-4	-2	-0	-46	-2	1	2	-38	6	9	10	-42	2	5	7	-44	1	4	6	4	4	3	4
20,000	-21.2	-24	-3	1	2	-20	1	4	5	-12	10	12	13	-16	5	8	9	-18	3	7	8	5	4	3	4
10,000	-4.6	-7	-3	1	2	-3	1	4	5	5	10	12	13	-0	4	7	8	-1	3	7	8	5	4	3	4
BUDAPEST TO LONDON																									802 N.MI.
53,000	-56.5	-56	0	3	5	-54	3	5	6	-51	6	8	9	-58	-1	1	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	5	9	10	-56	0	3	5	-55	1	5	7	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	1	-40	4	7	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-8	-2	0	-22	-1	2	4	-14	7	10	11	-18	3	6	8	-20	1	5	6	6	5	3	5
10,000	-4.6	-11	-7	-3	-1	-6	-2	1	3	2	6	9	10	-2	2	5	7	-5	0	4	6	6	4	3	5
BUDAPEST TO MADRID																									1065 N.MI.
53,000	-56.5	-57	-1	3	5	-56	1	4	5	-55	1	4	5	-60	-3	-1	1	-57	-0	2	4	5	4	3	4
40,000	-56.5	-58	-2	2	4	-58	-1	2	4	-53	4	7	8	-56	0	3	4	-56	0	4	6	6	5	4	4
30,000	-44.5	-49	-5	-2	-1	-47	-2	1	2	-38	6	9	10	-42	2	5	6	-44	0	4	6	4	4	3	4
20,000	-21.2	-25	-3	-0	2	-20	1	3	5	-12	9	11	12	-16	5	8	9	-18	3	6	8	5	4	3	4
10,000	-4.6	-8	-3	-0	2	-4	1	3	5	5	9	11	13	-1	4	7	8	-2	3	6	8	5	4	3	4
BUDAPEST TO MOSCOW																									844 N.MI.
53,000	-56.5	-56	1	4	6	-53	3	6	7	-48	8	10	11	-56	0	3	4	-53	3	6	8	5	4	3	4
40,000	-56.5	-58	-2	1	3	-55	2	5	7	-50	7	10	11	-55	1	4	6	-55	2	4	8	5	5	4	4
30,000	-44.5	-53	-6	-6	-4	-48	-4	-1	1	-40	4	7	9	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-23	-2	2	4	-14	7	10	11	-19	2	5	7	-21	-0	4	6	6	5	3	5
10,000	-4.6	-14	-10	-6	-4	-7	-3	1	3	1	5	7	8	-5	-0	3	5	-6	-2	2	4	6	5	3	5
BUDAPEST TO MUNICH																									506 N.MI.
53,000	-56.5	-56	1	4	6	-54	2	5	6	-52	5	7	8	-58	-2	1	2	-55	2	4	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	0	4	5	-51	5	8	10	-56	0	3	4	-56	1	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-48	-3	-1	1	-40	5	7	9	-45	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	4	-15	8	10	11	-17	4	7	8	-20	1	5	7	5	4	3	4
10,000	-4.6	-12	-7	-1	-2	-6	-2	1	3	2	7	9	10	-2	2	5	7	-4	0	4	6	5	4	3	4
BUDAPEST TO OSLO																									806 N.MI.
53,000	-56.5	-57	-0	3	5	-53	3	6	7	-48	8	10	11	-57	-0	2	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	2	3	-54	2	6	8	-50	6	10	12	-56	0	4	5	-55	2	6	8	5	6	5	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-41	3	6	7	-45	-0	2	4	-47	-2	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-24	-3	0	2	-15	6	9	10	-20	2	5	7	-22	-1	3	5	6	5	3	5
10,000	-4.6	-14	-9	-5	-3	-8	-4	-1	1	0	5	7	8	-5	-1	3	5	-7	-2	2	4	6	5	3	5
BUDAPEST TO PARIS																									676 N.MI.
53,000	-56.5	-56	0	4	5	-54	2	5	6	-52	5	7	8	-58	-2	1	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	0	4	6	-52	5	8	10	-56	0	3	5	-56	1	5	7	5	6	5	4
30,000	-44.5	-51	-6	-4	-2	-48	-3	-0	1	-40	5	7	9	-45	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-5	-2	0	-22	-1	2	4	-13	8	10	11	-18	4	7	8	-20	1	5	7	5	4	3	4
10,000	-4.6	-11	-6	-3	-1	-6	-1	2	3	2	7	9	10	-2	3	6	7	-4	0	4	6	5	4	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																				STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
BUDAPEST TO PRAGUE																									253 N.MI.
55,000	-56.5	-56	1	4	6	-54	2	5	6	-51	6	8	9	-58	-1	1	2	-55	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	1	4	6	-51	6	9	10	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-48	-3	-1	0	-40	5	7	8	-43	1	4	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-1	-23	-1	2	3	-13	8	10	11	-18	3	6	8	-20	1	4	6	5	5	3	4
10,000	-4.6	-12	-8	-4	-2	-7	-2	1	3	2	7	9	10	-3	2	5	7	-5	-0	3	5	6	5	3	5
BUDAPEST TO ROME																									441 N.MI.
55,000	-56.5	-56	0	4	5	-55	1	4	5	-54	2	4	6	-59	-3	-0	1	-56	0	3	4	5	4	3	4
40,000	-56.5	-58	-1	2	4	-57	-1	3	5	-51	6	8	10	-56	0	3	4	-56	1	5	7	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-47	-3	0	1	-38	6	9	10	-43	2	5	6	-45	-0	4	5	4	4	4	4
20,000	-21.2	-26	-5	-1	0	-21	0	3	4	-12	9	11	12	-17	5	7	9	-19	2	6	8	5	4	3	4
10,000	-4.6	-10	-6	-2	-0	-5	-0	2	4	4	9	11	12	-1	3	6	8	-3	2	5	7	5	4	3	4
BUDAPEST TO SANTA MARIA																									2040 N.MI.
55,000	-56.5	-58	-2	1	3	-56	0	3	4	-56	0	3	4	-60	-4	-1	0	-58	-1	2	3	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	2	4	-53	3	6	8	-56	0	3	4	-57	-0	4	5	6	6	4	4
30,000	-44.5	-48	-4	-1	0	-46	-1	1	3	-38	6	9	10	-42	3	5	7	-43	1	4	6	4	4	3	4
20,000	-21.2	-23	-2	2	3	-20	2	4	6	-12	10	12	13	-15	6	8	10	-17	4	7	9	5	4	3	4
10,000	-4.6	-6	-2	2	3	-3	1	4	6	5	9	11	12	0	5	7	9	-1	3	7	8	5	4	3	4
BUDAPEST TO SHANNON																									1121 N.MI.
55,000	-56.5	-57	-0	3	5	-54	3	5	7	-50	6	8	10	-58	-1	2	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	6	9	11	-56	0	4	5	-55	1	6	8	6	6	5	5
30,000	-44.5	-51	-6	-3	-2	-48	-3	-1	1	-40	4	7	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-23	-1	2	4	-14	7	9	11	-18	3	6	8	-20	1	4	6	6	5	3	5
10,000	-4.6	-11	-6	-2	-0	-6	-2	1	3	1	6	8	9	-3	2	5	7	-5	0	4	5	5	4	3	5
BUDAPEST TO STOCKHOLM																									734 N.MI.
55,000	-56.5	-56	0	3	5	-53	3	6	7	-48	8	10	11	-57	-0	2	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-55	2	6	8	-50	6	10	11	-56	1	4	5	-55	2	6	8	5	6	5	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-41	4	6	8	-45	-0	2	4	-47	-2	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-24	-3	0	2	-15	7	9	10	-20	2	5	7	-22	-1	3	5	6	5	3	5
10,000	-4.6	-14	-10	-6	-4	-9	-4	-1	1	1	5	7	8	-5	-1	3	5	-7	-2	1	3	6	5	3	5
BUDAPEST TO TEHERAN																									1588 N.MI.
55,000	-56.5	-57	-0	3	4	-56	1	3	4	-58	-1	1	2	-59	-3	-0	1	-58	-1	2	3	4	3	3	4
40,000	-56.5	-57	-0	3	4	-55	1	4	6	-48	9	11	12	-56	0	3	4	-54	2	6	8	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-45	-1	2	3	-34	11	13	14	-42	2	5	6	-43	2	6	8	4	4	4	4
20,000	-21.2	-25	-4	-1	1	-19	2	5	6	-9	12	14	15	-16	5	8	9	-17	4	8	10	5	4	3	4
10,000	-4.6	-10	-6	-2	-0	-3	2	5	6	6	11	13	14	0	5	8	9	-2	3	7	9	5	4	3	4
BUDAPEST TO TEL AVIV-JAFFA																									1170 N.MI.
55,000	-56.5	-58	-2	1	3	-57	-0	2	3	-61	-4	-2	-1	-61	-4	-2	-1	-59	-3	-0	1	4	3	3	3
40,000	-56.5	-56	0	3	5	-56	0	4	5	-48	9	11	12	-56	0	2	4	-54	2	6	8	5	5	3	3
30,000	-44.5	-49	-5	-3	-2	-46	-1	1	2	-34	11	13	14	-41	3	5	6	-43	2	6	8	3	3	3	3
20,000	-21.2	-24	-3	-0	2	-20	2	4	6	-9	12	14	15	-15	6	8	9	-17	4	8	10	4	4	3	3
10,000	-4.6	-9	-4	-1	0	-3	2	5	6	6	11	13	14	1	6	8	9	-1	4	7	9	4	4	3	3
BUDAPEST TO VIENNA																									115 N.MI.
55,000	-56.5	-56	1	4	6	-54	2	5	6	-51	5	7	9	-58	-2	1	2	-55	2	5	6	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	0	4	5	-51	6	9	10	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-48	-3	-1	1	-40	5	7	9	-43	1	4	5	-46	-1	3	5	4	4	4	4
20,000	-21.2	-27	-3	-2	-0	-22	-1	2	4	-13	8	10	11	-18	4	7	8	-20	1	5	7	5	4	3	4
10,000	-4.6	-12	-8	-4	-2	-6	-2	1	3	2	7	9	10	-2	2	5	7	-5	-0	3	5	5	5	3	4
BUDAPEST TO WARSAW																									292 N.MI.
55,000	-56.5	-56	1	4	6	-54	3	5	7	-50	7	9	10	-57	-1	2	1	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	4	6	-51	6	9	10	-56	0	3	5	-55	1	5	7	5	5	4	4
30,000	-44.5	-52	-7	-5	-4	-48	-4	-1	0	-40	4	7	8	-44	1	3	5	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-14	8	10	11	-18	3	6	8	-21	0	4	6	5	5	3	5
10,000	-4.6	-13	-9	-5	-3	-7	-3	0	2	2	6	8	9	-4	1	4	6	-6	-1	3	5	6	5	3	5
BUDAPEST TO ZURICH																									433 N.MI.
55,000	-56.5	-56	1	4	6	-54	2	5	6	-52	4	7	8	-58	-2	1	2	-55	1	4	5	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-0	3	5	-52	5	8	9	-56	0	3	4	-56	1	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-48	-3	-0	1	-39	5	7	9	-45	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	4	-13	8	10	11	-17	4	7	8	-20	1	5	7	5	4	3	4
10,000	-4.6	-11	-7	-3	-1	-6	-1	2	1	3	7	9	11	-2	3	6	7	-4	0	4	6	5	4	3	4
BUENOS AIRES TO CARACAS																									2766 N.MI.
55,000	-56.5	-75	-18	-16	-15	-74	-18	-15	-14	-69	-12	-10	-9	-71	-14	-12	-11	-72	-16	-13	-11	3	3	4	3
40,000	-56.5	-53	3	6	7	-53	4	6	8	-53	4	5	6	-54	3	5	5	-53	3	6	7	3	4	3	3
30,000	-44.5	-33	11	13	14	-32	12	14	15	-35	10	11	12	-33	12	14	14	-33	11	13	14	2	3	3	3
20,000	-21.2	-6	15	17	18	-6	15	16	17	-11	10	12	13	-7	14	15	16	-8	14	15	16	2	2	2	2
10,000	-4.6	9	14	15	16	8	13	15	15	6	10	12	12	8	13	14	13	8	12	14	15	2	2	2	2
BUENOS AIRES TO CHICAGO																									4880 N.MI.
55,000	-56.5	-73	-17	-15	-14	-72	-16	-14	-12	-69	-13	-11	-10	-72	-15	-13	-12	-72	-15	-13	-11	3	3	3	3
40,000	-56.5	-54	2	4	6	-54	3	5	6	-54	2	4	5	-54	2	4	5	-54	2	5	6	3	3	2	3
30,000	-44.5	-36	9	10	11	-35	10	11	12	-34	10	12	12	-34	11	13	13	-35	10	12	13	2	2	2	2
20,000	-21.2	-8	13	14	15	-8	13	15	16	-9	12	13	14	-8	14	15	16	-8	13	14	15	3	2	2	2
10,000	-4.6	7	11	13	14	7	11	13	14	7	11	13	13	8	12	14	15	7	12	13	14	2	3	2	2
BUENOS AIRES TO COPENHAGEN																									6528 N.MI.
55,000	-56.5	-70	-11	-11	-9	-69	-12	-10	-8	-66	-9	-7	-6	-69	-12	-10	-9	-68	-12	-9	-7	4	3	3	3
40,000	-56.5	-55	1	4	5	-55	2	5	6	-53	4	6	7	-54	2	4	5	-54	2	5	6	4	4	3	3
30,000	-44.5	-39	6	7	8	-37	7	9	10	-36	9	11	12	-36	9	11	12	-37	8	10	11	3	3	3	3
20,000	-21.2	-12	9	11	12	-11	10	12	13	-10	11	13	14	-10	11	13	14	-11	10	12	13	3	3	2	3
10,000	-4.6	4	8	10	11	4	9	11	12	6	11	12	13	6	10	12	13	5	10	11	12	3	3	2	3
BUENOS AIRES TO CORDOBA																									350 N.MI.
55,000	-56.5	-64	-8	-5	-4	-64	-7	-5	-3	-58	-2	1	3	-59	-3	-0	1	-61	-5	-1	0	4	4	4	4
40,000	-56.5	-54	3	6	8	-56	1	4	6	-52	5	8	9	-54	3	6	7	-54	3	6	8	5	5	4	4
30,000	-44.5	-39	5	8	9	-39	5	8	9	-44	0	2	4	-38	6	9	10	-40	4	7	9	4	3	4	4
20,000	-21.2	-12	10	12	13	-14	8	10	11	-20	1	3	5	-12	9	11	13	-14	7	10	11	3	3	3	4
10,000	-4.6	7	12	14	15	3	8	10	11	-2	3	4	5	2	6	8	9	3	7	10	12	3	3	3	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BUENOS AIRES TO DAKAR																						5784 N.MI.			
53,000	-56.5	-75	-18	-16	-15	-74	-18	-16	-15	-69	-15	-10	-9	-72	-15	-15	-12	-73	-16	-13	-11	4	3	4	3
40,000	-56.5	-53	3	5	7	-55	3	6	7	-55	4	6	6	-53	3	5	5	-55	3	5	6	3	4	3	3
30,000	-44.5	-34	11	12	13	-35	12	14	15	-35	10	11	12	-33	12	13	14	-34	11	13	14	2	3	2	3
20,000	-21.2	-7	15	16	17	-7	14	15	16	-9	12	13	14	-7	14	15	16	-8	14	15	16	2	2	2	2
10,000	- 4.6	9	14	15	16	8	13	14	15	6	11	12	13	8	13	14	15	8	13	14	15	2	2	2	2
BUENOS AIRES TO HAVANA																						5724 N.MI.			
53,000	-56.5	-75	-19	-17	-15	-74	-18	-16	-15	-70	-13	-11	-10	-72	-16	-14	-13	-73	-16	-14	-12	3	3	3	3
40,000	-56.5	-53	3	5	6	-55	4	6	7	-54	3	5	5	-54	3	4	5	-53	3	5	6	3	3	3	2
30,000	-44.5	-34	11	12	13	-33	12	13	14	-35	10	11	12	-33	12	13	14	-33	11	13	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-6	15	16	17	-10	11	12	13	-7	14	16	16	-7	14	15	16	2	2	2	2
10,000	- 4.6	9	13	15	16	8	13	14	15	6	11	12	13	8	13	14	15	8	13	14	15	2	2	2	2
BUENOS AIRES TO HONOLULU																						6561 N.MI.			
53,000	-56.5	-76	-19	-17	-16	-75	-18	-16	-15	-71	-14	-12	-11	-71	-14	-12	-11	-73	-16	-14	-12	3	3	3	3
40,000	-56.5	-54	3	5	6	-54	2	5	6	-54	3	5	6	-54	2	4	5	-54	3	4	5	3	4	3	3
30,000	-44.5	-34	10	12	13	-35	10	12	12	-36	9	10	11	-34	10	12	13	-35	10	12	13	3	2	3	3
20,000	-21.2	-8	14	15	16	-9	12	14	15	-11	11	12	13	-8	14	15	16	-9	13	14	15	2	2	2	2
10,000	- 4.6	8	13	14	15	8	12	13	14	6	11	12	13	7	12	13	14	7	12	13	14	2	2	2	2
BUENOS AIRES TO JOHANNESBURG																						4383 N.MI.			
53,000	-56.5	-61	-5	-2	-1	-62	-5	-2	-1	-57	-0	3	4	-58	-2	1	3	-59	-3	0	2	4	4	4	5
40,000	-56.5	-54	2	6	7	-56	1	4	5	-52	4	7	9	-54	3	6	8	-54	3	6	7	5	5	4	5
30,000	-44.5	-40	5	7	9	-40	5	7	9	-45	-1	2	4	-41	4	6	8	-41	3	6	8	4	4	4	4
20,000	-21.2	-13	9	11	12	-15	6	9	10	-20	1	3	5	-15	6	9	10	-16	5	8	10	4	4	4	4
10,000	- 4.6	4	9	11	12	2	7	9	10	-3	1	4	5	1	6	8	9	1	6	9	10	3	3	3	4
BUENOS AIRES TO KINGSTON																						5329 N.MI.			
53,000	-56.5	-75	-19	-16	-15	-74	-18	-16	-15	-70	-13	-11	-10	-72	-15	-13	-12	-73	-16	-13	-12	3	3	3	3
40,000	-56.5	-55	3	5	7	-55	4	6	7	-53	3	5	6	-54	3	4	5	-53	3	6	7	3	3	3	3
30,000	-44.5	-33	11	13	14	-33	12	14	15	-35	10	11	12	-33	12	13	14	-33	11	13	14	2	2	2	2
20,000	-21.2	-6	15	17	17	-6	15	16	17	-10	11	12	13	-7	14	15	16	-7	14	15	16	2	2	2	2
10,000	- 4.6	9	14	15	16	8	13	14	15	6	11	12	13	8	13	14	15	8	13	14	15	2	2	2	2
BUENOS AIRES TO LA PAZ																						1212 N.MI.			
53,000	-56.5	-70	-14	-11	-10	-70	-13	-11	-10	-64	-7	-5	-3	-64	-8	-5	-4	-67	-11	-7	-5	4	4	4	4
40,000	-56.5	-55	4	7	8	-54	3	5	7	-52	5	7	8	-54	3	5	6	-55	3	6	7	4	4	3	4
30,000	-44.5	-35	9	11	13	-36	9	11	12	-39	5	8	9	-35	9	11	12	-36	8	10	12	3	3	3	3
20,000	-21.2	-8	14	15	16	-10	12	13	14	-15	6	8	9	-10	12	14	15	-11	11	13	14	3	3	3	3
10,000	- 4.6	9	13	15	16	6	11	13	14	2	6	8	9	5	10	11	12	5	10	12	13	2	3	2	3
BUENOS AIRES TO LIMA																						1690 N.MI.			
53,000	-56.5	-71	-15	-12	-11	-71	-15	-12	-11	-65	-9	-6	-5	-66	-9	-7	-5	-68	-12	-9	-7	4	3	4	4
40,000	-56.5	-55	4	6	8	-54	3	5	7	-52	4	7	8	-54	3	5	6	-55	3	6	7	4	4	3	3
30,000	-44.5	-35	10	12	13	-35	9	11	12	-58	6	9	10	-35	10	12	13	-56	9	11	12	3	3	3	3
20,000	-21.2	-7	14	15	16	-9	12	14	15	-14	7	9	10	-9	12	14	15	-10	11	13	15	3	3	3	3
10,000	- 4.6	9	13	15	16	6	11	13	14	3	7	9	10	6	10	12	13	6	10	12	14	2	3	2	2
BUENOS AIRES TO LISBON																						5199 N.MI.			
53,000	-56.5	-73	-16	-14	-13	-72	-16	-13	-12	-69	-13	-10	-9	-71	-15	-13	-11	-71	-15	-12	-11	4	3	3	3
40,000	-56.5	-54	2	4	6	-54	2	5	7	-53	4	5	6	-54	3	5	6	-54	3	5	6	4	4	2	3
30,000	-44.5	-36	8	10	11	-34	10	12	13	-35	10	11	12	-34	11	12	13	-35	10	12	13	3	2	2	3
20,000	-21.2	-9	12	14	15	-9	12	14	15	-9	12	13	14	-8	13	15	16	-9	12	14	15	2	2	2	2
10,000	- 4.6	7	12	13	14	7	11	13	14	7	12	13	14	8	12	14	15	7	12	13	14	2	2	2	2
BUENOS AIRES TO LONDON																						6011 N.MI.			
53,000	-56.5	-71	-14	-12	-10	-70	-13	-11	-10	-67	-10	-8	-7	-69	-13	-11	-10	-69	-13	-10	-8	4	3	3	3
40,000	-56.5	-55	1	4	6	-55	2	5	6	-53	4	6	7	-54	2	4	5	-54	2	4	6	4	4	3	3
30,000	-44.5	-58	7	8	9	-56	8	10	11	-35	9	11	12	-35	9	11	12	-56	8	10	12	3	3	3	3
20,000	-21.2	-11	10	12	13	-11	11	12	13	-10	12	13	14	-9	12	14	15	-10	11	13	14	3	3	2	2
10,000	- 4.6	5	10	11	12	5	10	12	12	6	11	12	13	7	11	13	14	6	10	12	13	3	3	2	2
BUENOS AIRES TO LOS ANGELES																						5516 N.MI.			
53,000	-56.5	-74	-18	-16	-15	-73	-17	-15	-14	-71	-14	-12	-11	-73	-16	-14	-13	-73	-16	-14	-12	3	3	3	3
40,000	-56.5	-54	2	5	6	-54	2	4	6	-54	3	4	5	-54	2	4	5	-54	2	4	5	3	3	2	3
30,000	-44.5	-35	9	11	12	-35	10	11	12	-34	10	12	12	-34	11	13	13	-35	10	12	13	2	2	2	2
20,000	-21.2	-8	13	15	16	-8	13	15	16	-9	12	13	14	-7	14	15	16	-8	13	15	15	2	2	2	2
10,000	- 4.6	8	12	14	15	8	13	14	15	7	11	13	13	8	13	14	15	8	12	14	14	2	2	2	2
BUENOS AIRES TO MADRID																						5444 N.MI.			
53,000	-56.5	-72	-16	-14	-12	-72	-15	-13	-12	-69	-12	-10	-9	-71	-14	-12	-11	-71	-14	-12	-10	4	3	3	3
40,000	-56.5	-54	2	4	6	-54	2	5	7	-53	4	6	6	-54	3	5	6	-54	3	5	6	4	4	3	3
30,000	-44.5	-37	8	10	11	-35	10	11	12	-35	10	11	12	-34	10	12	13	-35	9	11	12	3	2	2	3
20,000	-21.2	-9	12	13	14	-9	12	14	14	-9	12	14	14	-8	13	15	15	-9	12	14	15	2	2	2	2
10,000	- 4.6	7	11	13	14	7	11	13	14	7	12	13	14	8	12	14	14	7	12	13	14	2	2	2	2
BUENOS AIRES TO MELBOURNE																						6255 N.MI.			
53,000	-56.5	-67	10	13	14	-55	2	4	6	-65	-7	-4	-3	-56	1	4	6	-55	1	6	8	5	4	4	5
40,000	-56.5	-49	8	11	13	-54	2	6	9	-62	-6	-2	-0	-57	-1	3	5	-56	1	6	8	5	6	5	5
30,000	-44.5	-46	-2	1	3	-50	-5	-3	-2	-57	-12	-10	-9	-53	-8	-6	-5	-51	-7	-3	-1	4	3	3	3
20,000	-21.2	-23	-2	1	3	-28	-7	-4	-2	-52	-11	-8	-7	-29	-8	-5	-4	-20	-7	-3	-1	4	4	4	4
10,000	- 4.6	-7	-3	0	2	-12	-7	-4	-3	-16	-12	-9	-7	-14	-9	-6	-5	-12	-8	-4	-2	4	4	4	4
BUENOS AIRES TO MEXICO CITY																						3988 N.MI.			
53,000	-56.5	-75	-19	-17	-15	-75	-18	-16	-15	-70	-14	-11	-10	-72	-16	-14	-13	-73	-17	-14	-12	3	3	3	3
40,000	-56.5	-53	3	5	6	-53	3	5	6	-54	3	5	6	-54	3	4	5	-54	3	5	6	3	3	3	2
30,000	-44.5	-34	11	12	13	-33	11	13	14	-35	10	11	12	-33	12	13	14	-34	11	13	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-7	14	16	17	-10	11	12	13	-7	14	15	16	-8	14	15	16	2	2	2	2
10,000	- 4.6	9	13	15	16	8	13	14	15	6	11	12	13	8	13	14	15	8	12	14	15	2	2	2	2
BUENOS AIRES TO MIAMI																						3839 N.MI.			
53,000	-56.5	-75	-19	-17	-15	-74	-18	-16	-15	-70	-13	-11	-10	-72	-16	-14	-13	-73	-16	-14	-12	3	3	3	3
40,000	-56.5	-53	3	5	6	-53	4	6	7	-54	3	4	5	-54	3	4	5	-53	3	5	6	3	3	2	2
30,000	-44.5	-34	11	12	13	-33	12	13	14	-35	10	12	12	-33	12	13	14	-33	11	13	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-7	15	16	17	-10	11	13	13	-7	14	16	16	-7	14	15	16	2	2	2	2
10,000	- 4.6	9	13	15	15	8	13	14	15	7	11	12	13	8	13	14	15	8	13	14	15	2	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50*	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BUENOS AIRES TO MONTEVIDEO																									128 N.MI.
55,000	-56.5	-63	-6	-3	-2	-62	-6	-3	-2	-57	-0	3	4	-58	-2	1	3	-60	-3	0	2	4	4	4	4
40,000	-56.5	-54	2	6	7	-56	1	4	6	-52	5	8	9	-54	3	6	7	-54	3	6	8	5	5	4	5
30,000	-44.5	-40	5	7	9	-40	5	7	8	-46	-1	1	3	-39	5	8	9	-41	3	6	8	4	4	4	4
20,000	-21.2	-13	8	10	12	-15	7	9	10	-21	0	3	4	-14	7	10	11	-16	6	8	10	4	4	3	4
10,000	- 4.6	7	12	14	15	3	7	10	11	-3	2	4	5	1	6	8	9	2	7	10	11	3	3	3	3
BUENOS AIRES TO NATAL																									2163 N.MI.
55,000	-56.5	-73	-17	-14	-12	-72	-16	-13	-12	-66	-9	-7	-5	-68	-11	-9	-7	-70	-13	-10	-8	4	4	4	3
40,000	-56.5	-53	4	6	9	-53	3	6	8	-52	5	7	8	-54	3	5	6	-53	4	6	7	4	4	3	3
30,000	-44.5	-34	11	13	14	-34	11	13	14	-36	8	10	11	-34	10	12	13	-35	10	12	13	3	3	3	3
20,000	-21.2	-6	15	17	18	-8	13	15	15	-12	9	11	12	-9	13	14	15	-9	12	15	16	3	2	3	3
10,000	- 4.6	9	14	15	16	8	12	14	15	4	8	10	11	7	12	14	14	7	12	14	15	2	3	2	2
BUENOS AIRES TO NEW ORLEANS																									4265 N.MI.
55,000	-56.5	-75	-18	-16	-15	-74	-17	-15	-14	-70	-14	-12	-10	-73	-16	-14	-13	-73	-16	-14	-12	3	3	3	3
40,000	-56.5	-54	3	5	6	-53	3	5	7	-54	3	4	5	-54	2	4	5	-54	3	5	6	3	3	2	2
30,000	-44.5	-34	10	12	13	-33	11	13	13	-34	10	12	12	-33	12	13	14	-34	11	13	13	2	2	2	2
20,000	-21.2	-7	14	16	17	-7	14	16	16	-10	12	13	13	-7	14	15	16	-8	14	15	16	2	2	2	2
10,000	- 4.6	8	13	14	15	6	13	14	15	7	11	13	13	8	13	14	15	8	12	14	15	2	2	2	2
BUENOS AIRES TO NEW YORK																									4603 N.MI.
55,000	-56.5	-74	-17	-15	-14	-73	-16	-14	-13	-69	-12	-10	-9	-72	-15	-13	-12	-72	-15	-13	-11	3	3	3	3
40,000	-56.5	-54	2	5	6	-54	3	5	6	-54	2	4	5	-54	2	4	5	-54	2	5	6	3	3	2	3
30,000	-44.5	-35	9	11	12	-34	10	12	13	-35	10	11	12	-33	11	13	14	-34	10	12	13	3	3	2	2
20,000	-21.2	-6	13	15	16	-8	13	15	16	-10	12	13	14	-8	14	15	16	-8	13	15	15	2	2	2	2
10,000	- 4.6	7	12	13	14	7	11	13	14	7	11	12	13	8	12	14	14	7	12	13	14	2	2	2	2
BUENOS AIRES TO PANAMA																									2885 N.MI.
55,000	-56.5	-75	-18	-16	-15	-74	-17	-15	-14	-69	-12	-10	-9	-71	-14	-12	-11	-72	-16	-13	-11	3	3	4	3
40,000	-56.5	-53	3	6	7	-53	4	6	7	-53	3	5	6	-54	3	4	5	-53	3	6	7	3	4	3	3
30,000	-44.5	-33	11	13	14	-33	12	13	14	-35	9	11	12	-33	12	13	14	-34	11	13	14	2	3	3	3
20,000	-21.2	-6	15	17	16	-7	15	16	17	-11	10	12	12	-7	14	15	16	-6	13	15	16	2	2	2	2
10,000	- 4.6	9	14	15	16	8	13	14	15	6	10	12	12	8	12	14	15	6	12	14	15	2	2	2	2
BUENOS AIRES TO PERTH																									6784 N.MI.
55,000	-56.5	-46	10	14	15	-56	0	3	4	-65	-9	-6	-5	-60	-3	0	2	-57	-0	5	8	5	4	4	5
40,000	-56.5	-48	8	12	13	-54	2	6	9	-64	-7	-4	-2	-61	-4	-1	1	-57	-0	5	7	5	6	5	5
30,000	-44.5	-47	-3	0	2	-50	-6	-4	-2	-57	-13	-11	-9	-54	-10	-7	-6	-52	-8	-4	-2	5	4	3	3
20,000	-21.2	-24	-3	0	2	-31	-9	-6	-4	-34	-13	-10	-9	-31	-9	-6	-4	-30	-9	-4	-2	5	5	4	5
10,000	- 4.6	-9	-4	-1	0	-14	-10	-6	-4	-20	-15	-12	-10	-15	-11	-8	-6	-15	-10	-6	-4	4	5	5	5
BUENOS AIRES TO QUITO																									2359 N.MI.
55,000	-56.5	-74	-17	-15	-13	-73	-17	-14	-13	-68	-11	-9	-7	-69	-12	-10	-9	-71	-14	-11	-10	4	3	4	3
40,000	-56.5	-53	4	6	7	-53	3	6	7	-53	4	6	7	-54	3	5	6	-53	3	6	7	3	4	3	3
30,000	-44.5	-34	11	13	14	-34	11	13	14	-36	8	10	11	-34	11	13	14	-34	10	12	13	3	3	3	3
20,000	-21.2	-6	15	16	17	-7	14	15	16	-12	9	11	11	-8	13	15	16	-8	13	15	16	2	2	2	2
10,000	- 4.6	9	14	15	16	8	12	14	15	5	9	11	11	7	12	13	14	7	12	13	14	2	2	2	2
BUENOS AIRES TO RIO DE JANEIRO																									1080 N.MI.
55,000	-56.5	-68	-12	-9	-8	-67	-11	-8	-7	-61	-5	-2	-0	-62	-6	-3	-2	-65	-8	-5	-3	4	4	4	4
40,000	-56.5	-53	4	7	8	-54	2	5	7	-52	5	7	9	-54	3	5	7	-53	3	6	8	4	5	4	4
30,000	-44.5	-37	8	10	11	-37	8	10	11	-41	3	6	7	-37	7	10	11	-38	7	9	10	3	3	4	4
20,000	-21.2	-8	13	15	16	-12	10	12	13	-16	5	7	8	-11	10	12	14	-12	9	12	14	3	3	3	3
10,000	- 4.6	8	13	15	16	6	10	12	13	1	5	7	8	4	9	11	12	5	9	12	13	3	3	3	3
BUENOS AIRES TO ROME																									6034 N.MI.
55,000	-56.5	-72	-15	-13	-12	-71	-15	-12	-11	-69	-12	-10	-9	-70	-14	-12	-11	-71	-14	-11	-10	4	3	3	3
40,000	-56.5	-54	2	5	6	-54	3	5	7	-52	4	6	7	-54	3	5	6	-54	3	5	6	4	4	3	3
30,000	-44.5	-37	7	9	10	-35	9	11	12	-35	10	12	12	-35	10	12	13	-35	9	11	12	3	3	2	3
20,000	-21.2	-10	11	13	14	-10	12	13	14	-9	12	14	15	-8	13	14	15	-9	12	14	14	3	2	2	2
10,000	- 4.6	6	11	12	13	7	11	13	14	8	13	14	15	7	12	13	14	7	12	13	14	2	2	2	2
BUENOS AIRES TO SAN JUAN																									3222 N.MI.
55,000	-56.5	-75	-19	-17	-15	-75	-18	-16	-15	-69	-13	-11	-9	-72	-15	-13	-12	-73	-16	-13	-12	3	3	3	3
40,000	-56.5	-53	3	5	7	-53	4	6	7	-53	3	5	6	-54	3	4	5	-53	3	6	7	3	3	3	3
30,000	-44.5	-33	11	13	14	-32	12	14	15	-35	10	11	12	-32	12	14	15	-33	11	13	14	2	3	2	2
20,000	-21.2	-6	15	17	18	-6	15	16	17	-10	11	12	13	-7	14	16	16	-7	14	16	17	2	2	2	2
10,000	- 4.6	9	14	15	16	8	13	15	15	6	11	12	13	8	13	14	15	8	13	14	15	2	2	2	2
BUENOS AIRES TO SANTIAGO																									604 N.MI.
55,000	-56.5	-63	-7	-4	-3	-63	-6	-4	-2	-57	-1	2	4	-59	-2	1	2	-60	-4	-0	1	4	4	4	4
40,000	-56.5	-54	3	6	7	-56	1	4	6	-52	5	8	9	-54	3	6	7	-54	3	6	8	5	5	4	4
30,000	-44.5	-40	5	7	9	-40	5	7	8	-45	-1	2	3	-37	5	8	9	-41	4	6	8	4	3	4	4
20,000	-21.2	-12	9	11	12	-15	6	9	10	-21	0	2	4	-13	8	11	12	-15	6	9	10	3	3	3	4
10,000	- 4.6	7	12	14	15	2	7	9	10	-3	2	4	5	1	5	7	8	2	6	9	11	3	3	3	3
BUENOS AIRES TO SAO PAULO																									917 N.MI.
55,000	-56.5	-68	-12	-9	-7	-67	-11	-8	-7	-61	-5	-2	0	-62	-6	-3	-1	-65	-8	-4	-3	4	4	4	4
40,000	-56.5	-53	4	7	6	-54	2	5	7	-52	5	7	9	-54	3	5	7	-53	3	6	8	4	5	4	4
30,000	-44.5	-37	8	10	11	-37	7	10	11	-42	3	5	7	-37	7	10	11	-38	6	9	10	3	3	4	4
20,000	-21.2	-8	13	15	16	-12	9	12	13	-16	5	7	8	-11	10	12	14	-12	9	12	14	3	3	3	3
10,000	- 4.6	8	13	15	16	6	10	12	13	0	5	7	8	4	9	11	12	5	9	12	13	3	3	3	3
BUENOS AIRES TO SEATTLE																									6002 N.MI.
55,000	-56.5	-72	-15	-13	-12	-71	-14	-12	-11	-69	-12	-10	-9	-71	-15	-12	-11	-71	-14	-12	-11	3	3	3	3
40,000	-56.5	-54	2	5	6	-55	2	4	6	-54	2	4	5	-55	2	4	5	-54	2	4	5	4	4	3	3
30,000	-44.5	-37	7	9	10	-36	8	10	11	-35	10	11	12	-35	10	12	12	-36	9	10	11	2	2	2	3
20,000	-21.2	-10	11	13	14	-10	11	13	14	-9	12	13	14	-9	13	14	15	-10	12	13	14	3	3	2	2
10,000	- 4.6	5	10	12	13	6	11	13	14	8	12	14	15	7	12	13	14	7	11	13	14	3	3	2	2
BUENOS AIRES TO TRINIDAD																									2728 N.MI.
55,000	-56.5	-75	-18	-16	-15	-74	-18	-15	-14	-69	-12	-10	-8	-71	-14	-12	-11	-72	-16	-13	-11	3	3	4	3
40,000	-56.5	-53	3	6	7	-53	4	6	8	-53	4	5	6	-54	3	5	6	-53	3	6	7	3	4	3	3
30,000	-44.5	-33	11	13	14	-32	12	14	15	-35	10	11	12	-33	12	14	15	-33	11	13	14	2	3	3	3
20,000	-21.2	-6	15	17	18	-6	15	16	17	-11	10	12	13	-7	14	15	16	-8	14	16	17	2	2	2	2
10,000	- 4.6	9	14	15	16	8	13	15	15	6	10	12	12	8	13	14	15	8	13	14	15	2	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BUENOS AIRES TO USHUAIA																									1267 N.MI.
55,000	-56.5	-54	3	5	7	-57	-0	2	4	-57	-0	2	4	-55	2	5	7	-56	1	4	6	4	4	4	5
40,000	-56.5	-52	4	8	10	-55	1	5	7	-55	1	5	7	-55	1	5	7	-54	2	6	8	5	5	5	5
30,000	-44.5	-43	1	4	6	-44	1	3	4	-51	-6	-4	-2	-46	-1	1	3	-46	-1	2	4	4	4	4	4
20,000	-21.2	-17	4	7	9	-20	1	4	6	-26	-5	-2	-1	-21	0	3	5	-21	0	4	6	4	4	4	4
10,000	-4.6	0	5	7	9	-3	1	4	5	-9	-4	-2	-1	-6	-1	2	3	-4	0	4	6	4	4	3	4
BUTTERWORTH TO GAN																									1647 N.MI.
55,000	-56.5	-82	-25	-24	-23	-78	-22	-20	-18	-78	-22	-20	-19	-80	-24	-22	-21	-80	-23	-21	-20	3	3	3	3
40,000	-56.5	-55	2	3	4	-52	5	7	7	-54	2	3	4	-54	2	3	4	-54	3	5	6	3	2	2	2
30,000	-44.5	-31	14	15	15	-30	15	16	17	-31	14	15	18	-32	13	14	14	-31	14	15	16	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	16	17	18	-5	16	17	18	-6	18	17	17	-5	16	17	18	2	2	1	1
10,000	-4.6	10	14	15	16	10	14	15	16	9	14	14	15	9	14	15	15	10	14	15	16	1	1	1	1
BUTTERWORTH TO KARACHI																									2207 N.MI.
55,000	-56.5	-78	-21	-19	-18	-75	-18	-16	-15	-77	-21	-18	-16	-78	-22	-20	-19	-77	-21	-18	-16	3	4	4	3
40,000	-56.5	-56	1	3	5	-52	4	7	8	-51	5	8	9	-54	2	5	8	-53	3	6	8	4	3	4	4
30,000	-44.5	-33	11	13	14	-32	13	15	16	-28	16	18	19	-32	13	15	16	-31	13	15	17	3	3	2	3
20,000	-21.2	-7	14	15	16	-6	15	17	18	-4	17	19	19	-6	15	17	18	-6	15	17	18	2	3	2	2
10,000	-4.6	8	12	14	15	10	15	16	17	11	18	17	18	9	13	15	15	10	14	16	18	2	2	2	2
BUTTERWORTH TO NAIROBI																									3829 N.MI.
55,000	-56.5	-81	-24	-22	-21	-78	-22	-19	-18	-77	-21	-19	-18	-79	-23	-21	-20	-79	-22	-20	-19	3	3	3	3
40,000	-58.5	-54	2	4	5	-52	5	7	8	-54	3	4	5	-53	3	4	5	-53	3	5	8	3	3	2	2
30,000	-44.5	-30	14	15	16	-30	15	16	17	-31	14	15	16	-31	13	14	15	-31	14	15	16	2	2	2	2
20,000	-21.2	-5	17	18	18	-5	16	17	18	-5	16	17	18	-8	18	17	17	-5	18	17	18	1	2	1	1
10,000	-4.8	10	14	15	16	10	14	15	16	9	14	15	15	9	14	15	15	10	14	15	16	1	1	1	1
BUTTERWORTH TO SINGAPORE																									374 N.MI.
55,000	-56.5	-82	-26	-24	-23	-80	-23	-21	-20	-78	-22	-20	-19	-80	-24	-22	-21	-80	-24	-21	-20	3	3	3	3
40,000	-56.5	-55	2	3	4	-52	5	6	7	-54	2	3	4	-54	2	3	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-31	14	15	15	-30	15	16	16	-31	14	15	15	-32	13	14	14	-31	14	15	16	2	2	2	1
20,000	-21.2	-5	17	18	18	-5	17	18	18	-5	16	17	17	-6	16	17	17	-5	16	17	18	1	1	1	1
10,000	-4.6	9	14	15	15	10	15	16	16	9	14	14	15	9	14	15	15	10	14	15	16	1	1	1	1
CAIRO TO CALCUTTA																									5068 N.MI.
55,000	-56.5	-68	-12	-9	-8	-66	-10	-7	-6	-73	-16	-14	-12	-70	-13	-11	-9	-69	-13	-10	-8	4	4	4	4
40,000	-56.5	-54	2	5	7	-54	3	6	8	-47	9	12	13	-54	2	5	8	-52	4	8	10	4	5	4	4
30,000	-44.5	-41	4	7	8	-38	6	9	11	-26	18	21	22	-35	10	12	13	-35	10	13	15	4	4	3	3
20,000	-21.2	-16	6	8	9	-12	10	12	13	-2	19	21	22	-9	12	14	15	-10	12	15	17	3	3	3	3
10,000	-4.6	1	5	8	9	6	11	13	14	15	20	21	22	7	12	14	15	7	12	15	17	3	3	2	3
CAIRO TO COLOGNE																									1650 N.MI.
55,000	-56.5	-58	-2	1	3	-57	-0	2	3	-60	-3	-1	0	-61	-4	-2	-1	-59	-2	0	2	4	3	3	3
40,000	-56.5	-57	-0	1	5	-57	-0	3	5	-49	7	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-49	-5	-2	-1	-46	-1	1	2	-35	9	12	13	-42	3	5	8	-43	2	5	7	3	3	3	3
20,000	-21.2	-24	-3	0	2	-20	2	4	6	-10	11	13	14	-15	4	8	9	-17	4	7	9	4	4	3	3
10,000	-4.8	-8	-4	-1	1	-3	1	4	6	6	11	13	14	1	6	8	9	-1	3	7	9	4	4	3	3
CAIRO TO COLOMBO																									5062 N.MI.
55,000	-58.5	-74	-18	-16	-15	-74	-17	-15	-13	-75	-19	-17	-15	-76	-20	-17	-16	-75	-18	-16	-14	3	3	3	3
40,000	-56.5	-55	2	4	8	-52	4	6	8	-49	8	9	10	-54	3	5	6	-52	4	7	8	3	4	3	3
10,000	-44.5	-36	9	11	12	-34	11	13	14	-27	17	19	20	-33	11	13	14	-32	12	15	16	3	3	2	3
20,000	-21.2	-10	11	13	14	-8	13	15	16	-4	18	19	20	-7	14	16	16	-7	14	16	17	2	2	2	2
10,000	-4.6	6	10	12	13	8	13	15	15	14	18	19	20	9	13	15	15	9	14	16	17	2	2	2	2
CAIRO TO COPENHAGEN																									1725 N.MI.
55,000	-56.5	-58	-1	1	3	-56	0	3	4	-58	-1	1	2	-60	-4	-1	-0	-58	-1	1	3	4	3	3	4
40,000	-56.5	-57	-0	3	5	-56	1	4	6	-49	8	10	12	-56	0	3	4	-54	2	4	8	5	5	4	4
30,000	-44.5	-50	-5	-3	-2	-46	-2	1	2	-36	9	11	12	-42	2	5	6	-44	1	5	7	3	4	3	3
20,000	-21.2	-25	-4	-1	1	-21	1	3	5	-10	11	13	14	-16	5	8	9	-18	3	7	8	5	4	3	4
10,000	-4.6	-10	-5	-2	-0	-4	0	3	5	5	10	11	12	-0	4	7	8	-2	2	6	8	5	4	3	4
CAIRO TO DAKAR																									2840 N.MI.
55,000	-56.5	-71	-14	-12	-11	-69	-13	-11	-10	-73	-17	-15	-14	-72	-16	-14	-13	-71	-15	-13	-11	3	3	3	3
40,000	-56.5	-54	3	5	6	-54	3	5	7	-51	6	7	8	-54	3	4	5	-53	3	5	6	4	4	2	2
30,000	-44.5	-41	3	5	6	-36	8	10	11	-31	14	16	16	-35	9	11	11	-36	9	11	13	2	2	2	2
20,000	-21.2	-14	7	9	10	-11	10	12	13	-5	16	17	18	-9	13	14	14	-10	12	14	15	2	2	2	2
10,000	-4.6	3	8	9	10	6	10	12	13	14	19	20	20	8	12	14	14	8	12	15	16	2	2	2	2
CAIRO TO DAMASCUS																									518 N.MI.
55,000	-56.5	-64	-8	-5	-4	-62	-6	-4	-3	-71	-14	-12	-11	-66	-10	-7	-6	-66	-9	-7	-5	3	3	3	3
40,000	-56.5	-54	2	5	6	-55	1	4	6	-47	10	12	13	-55	1	3	4	-53	4	7	8	4	5	3	3
30,000	-44.5	-45	-1	1	2	-42	3	5	6	-27	18	19	21	-39	6	8	9	-38	6	10	13	3	3	3	3
20,000	-21.2	-19	2	5	6	-16	6	8	9	-4	19	19	20	-12	9	11	12	-12	9	12	14	3	3	3	2
10,000	-4.6	-3	2	4	5	1	6	8	10	13	17	19	19	6	11	12	13	4	9	12	14	3	4	2	3
CAIRO TO DHAHRAN																									1017 N.MI.
55,000	-56.5	-68	-11	-9	-8	-66	-10	-8	-7	-73	-18	-14	-13	-70	-14	-11	-10	-69	-13	-10	-9	3	3	3	3
40,000	-56.5	-54	3	5	6	-54	2	5	7	-47	10	12	13	-54	2	4	5	-52	4	7	9	4	4	3	3
30,000	-44.5	-47	2	4	5	-38	6	8	9	-26	19	20	21	-36	8	10	11	-36	9	12	14	3	3	3	3
20,000	-21.2	-16	5	7	8	-13	8	10	11	-3	19	20	21	-10	12	13	14	-10	11	14	16	3	3	3	2
10,000	-4.8	0	5	7	8	4	9	11	12	15	20	21	22	8	12	14	15	7	11	14	16	3	3	2	2
CAIRO TO DJAKARTA																									4840 N.MI.
55,000	-56.5	-77	-20	-18	-17	-75	-18	-16	-15	-76	-20	-18	-16	-77	-21	-19	-18	-76	-20	-17	-16	3	3	3	3
40,000	-58.5	-55	2	4	5	-52	4	6	8	-51	6	8	9	-54	2	4	5	-53	4	6	7	3	3	3	3
30,000	-44.5	-35	10	12	13	-33	12	14	15	-28	16	18	18	-33	12	13	14	-32	12	15	16	3	3	2	2
20,000	-21.2	-9	13	14	15	-7	14	15	16	-4	17	18	19	-7	15	16	16	-7	15	16	17	2	2	2	2
10,000	-4.6	7	11	13	14	9	13	15	16	12	17	18	18	9	13	15	15	9	14	15	16	2	2	2	2
CAIRO TO DUSSELDORF																									1677 N.MI.
55,000	-56.5	-58	-2	1	3	-57	-0	2	3	-59	-3	-1	0	-61	-4	-2	-1	-59	-2	0	2	4	3	3	3
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-49	7	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-49	-5	-2	-1	-46	-1	1	2	-35	9	12	13	-42	3	5	6	-43	2	5	7	3	3	3	3
20,000	-21.2	-24	-3	0	2	-20	1	4	6	-10	11	13	14	-15	6	8	9	-17	4	7	9	4	4	3	3
10,000	-4.8	-8	-4	-1	1	-3	1	4	6	6	10	12	13	1	5	8	9	-1	3	7	9	4	4	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
CAIRO TO ENTEBBE																									1806 N.MI.
55,000	-56.5	-75	-18	-16	-15	-74	-18	-16	-15	-75	-19	-17	-16	-76	-19	-17	-16	-75	-18	-16	-15	3	3	3	3
40,000	-56.5	-54	3	4	5	-53	4	6	7	-51	6	7	8	-53	4	5	6	-52	4	6	7	2	3	2	2
30,000	-44.5	-36	8	10	10	-32	12	13	14	-29	15	17	17	-32	12	14	14	-33	12	14	15	2	2	2	2
20,000	-21.2	-9	13	14	15	-7	14	15	16	-4	17	18	19	-7	14	15	16	-7	14	16	17	2	2	2	1
10,000	- 4.6	7	12	13	14	9	13	15	15	12	17	18	18	9	14	15	16	9	14	16	16	2	2	2	2
CAIRO TO FRANKFURT																									1576 N.MI.
55,000	-56.5	-58	-2	1	3	-57	-1	2	3	-60	-4	-1	-0	-61	-5	-2	-1	-59	-3	0	2	4	3	3	3
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-49	7	10	11	-56	0	3	4	-55	2	5	7	5	5	3	4
30,000	-44.5	-49	-5	-2	-1	-45	-1	1	3	-35	10	12	13	-41	3	5	7	-43	2	6	8	3	3	3	3
20,000	-21.2	-24	-3	0	2	-19	2	4	6	-10	12	14	15	-15	6	8	9	-17	4	8	9	4	4	3	3
10,000	- 4.6	-8	-3	-1	1	-3	2	4	6	6	11	13	14	1	6	8	9	-1	4	7	9	4	4	3	3
CAIRO TO GENEVA																									1524 N.MI.
55,000	-56.5	-59	-2	0	2	-58	-1	1	2	-62	-6	-3	-2	-62	-5	-3	-2	-60	-4	-1	1	4	3	3	3
40,000	-56.5	-56	0	3	5	-57	-1	3	5	-49	7	9	11	-56	0	3	4	-55	2	5	7	5	5	3	3
30,000	-44.5	-48	-4	-2	-0	-45	-0	2	3	-34	10	13	14	-41	4	6	7	-42	2	6	8	3	3	3	3
20,000	-21.2	-23	-2	1	3	-19	3	5	6	-9	12	14	15	-15	7	9	10	-16	5	8	10	4	4	3	3
10,000	- 4.6	-7	-2	1	2	-2	3	5	7	7	12	14	15	2	6	9	10	0	5	8	10	4	4	3	3
CAIRO TO GLASGOW																									2155 N.MI.
55,000	-56.5	-58	-2	1	3	-56	1	3	4	-57	-1	2	3	-60	-4	-1	0	-58	-1	1	3	4	4	3	4
40,000	-56.5	-57	-1	3	5	-56	0	4	6	-49	7	10	11	-56	0	3	4	-55	2	6	8	5	6	4	4
30,000	-44.5	-50	-5	-3	-1	-46	-2	1	2	-37	8	10	12	-42	2	5	6	-44	1	5	7	4	4	3	4
20,000	-21.2	-25	-3	-0	1	-21	1	3	5	-11	10	12	13	-16	5	7	9	-18	3	7	8	5	4	3	4
10,000	- 4.6	-9	-4	-1	1	-4	0	3	5	5	9	11	12	-0	4	7	8	-2	3	6	8	5	4	3	4
CAIRO TO HAMBURG																									1689 N.MI.
55,000	-56.5	-58	-2	1	3	-56	0	2	4	-58	-2	0	1	-61	-4	-2	-0	-58	-2	1	2	4	3	3	4
40,000	-56.5	-57	-0	3	5	-56	0	4	6	-49	8	10	11	-56	0	3	4	-55	2	6	7	5	5	4	4
30,000	-44.5	-50	-5	-3	-1	-46	-1	1	2	-36	9	11	13	-42	3	5	6	-43	1	5	7	3	3	3	3
20,000	-21.2	-25	-3	-0	1	-20	1	4	5	-10	11	13	14	-16	5	8	9	-18	4	7	9	5	4	3	3
10,000	- 4.6	-9	-5	-2	0	-4	1	4	5	5	10	12	13	0	5	7	9	-2	3	6	8	5	4	3	4
CAIRO TO HELSINKI																									1829 N.MI.
55,000	-56.5	-58	-1	2	3	-56	1	3	4	-56	1	3	4	-59	-3	-0	1	-57	-1	2	3	4	3	3	4
40,000	-56.5	-57	-1	2	4	-55	1	5	6	-48	8	11	12	-56	1	3	5	-54	2	6	8	5	5	4	4
30,000	-44.5	-51	-6	-4	-3	-47	-2	1	2	-36	8	11	12	-43	2	4	5	-44	0	4	7	4	4	4	3
20,000	-21.2	-26	-5	-2	0	-21	0	3	5	-11	10	12	13	-17	4	7	8	-19	2	6	8	5	5	3	4
10,000	- 4.6	-11	-7	-3	-1	-5	-0	3	5	4	9	11	12	-1	3	6	8	-3	1	5	7	5	5	3	4
CAIRO TO ISTANBUL																									662 N.MI.
55,000	-56.5	-61	-4	-2	-0	-59	-3	-1	1	-66	-10	-8	-7	-63	-7	-4	-3	-62	-6	-3	-2	4	3	3	3
40,000	-56.5	-55	1	4	6	-56	0	4	5	-47	9	11	12	-56	0	3	4	-54	3	6	8	4	5	3	3
30,000	-44.5	-48	-3	-1	0	-44	1	3	4	-30	14	16	17	-40	4	6	7	-41	4	8	10	3	3	3	3
20,000	-21.2	-22	-0	2	3	-18	3	6	7	-7	15	16	17	-14	8	9	10	-15	6	10	12	4	4	3	3
10,000	- 4.6	-6	-1	1	2	-1	4	6	8	9	14	15	16	4	8	10	11	1	6	9	11	4	4	2	3
CAIRO TO JIDDA																									667 N.MI.
55,000	-56.5	-69	-13	-11	-10	-68	-12	-10	-9	-73	-17	-15	-14	-72	-15	-13	-12	-71	-14	-12	-11	3	3	3	3
40,000	-56.5	-54	3	5	6	-54	2	5	6	-49	9	10	11	-54	3	4	5	-52	4	7	8	3	4	2	2
30,000	-44.5	-42	3	5	6	-37	8	9	10	-27	18	20	20	-35	9	11	12	-35	9	13	14	3	3	2	2
20,000	-21.2	-14	7	9	10	-12	10	11	12	-3	18	19	20	-9	12	14	14	-10	12	14	16	3	3	2	2
10,000	- 4.6	2	7	9	10	5	10	12	13	15	19	21	21	8	13	14	15	8	12	15	16	3	3	2	2
CAIRO TO JOHANNESBURG																									3381 N.MI.
55,000	-56.5	-75	-19	-17	-15	-74	-18	-16	-15	-73	-16	-15	-13	-74	-18	-16	-15	-74	-18	-16	-14	3	3	3	3
40,000	-56.5	-53	4	5	6	-52	4	6	7	-51	5	7	7	-52	4	6	6	-52	4	6	7	3	3	2	2
30,000	-44.5	-34	11	12	13	-32	12	14	15	-31	13	15	16	-32	12	14	15	-32	12	14	15	2	2	2	2
20,000	-21.2	-7	14	15	16	-7	14	16	16	-6	16	17	18	-7	14	15	16	-6	15	16	17	2	2	2	2
10,000	- 4.6	9	13	14	15	9	13	15	15	9	14	15	16	10	14	15	16	9	13	15	16	2	2	2	2
CAIRO TO KANO																									1672 N.MI.
55,000	-56.5	-72	-16	-14	-13	-71	-14	-13	-12	-75	-18	-16	-15	-74	-17	-15	-14	-73	-16	-14	-13	3	3	3	3
40,000	-56.5	-54	3	5	6	-53	3	6	7	-50	6	7	8	-53	3	5	6	-53	4	6	7	3	4	2	2
30,000	-44.5	-40	5	6	7	-35	10	11	12	-29	16	17	18	-34	10	12	13	-34	10	13	14	2	2	2	2
20,000	-21.2	-12	9	10	11	-10	11	13	14	-4	17	18	19	-8	13	14	15	-9	13	15	16	2	2	2	1
10,000	- 4.6	5	9	11	12	7	12	14	14	13	18	19	19	9	13	15	15	8	13	15	16	2	2	2	2
CAIRO TO KARACHI																									1920 N.MI.
55,000	-56.5	-68	-12	-9	-8	-67	-10	-8	-7	-73	-16	-14	-13	-70	-14	-11	-10	-70	-13	-10	-9	3	3	3	4
40,000	-56.5	-54	3	5	7	-53	3	6	8	-47	10	12	13	-54	2	5	6	-52	4	8	9	4	4	3	3
30,000	-44.5	-41	3	6	7	-38	6	9	10	-26	19	21	22	-35	9	11	12	-35	9	13	15	4	3	3	3
20,000	-21.2	-16	6	8	9	-12	9	11	12	-2	19	21	22	-9	12	14	14	-10	11	15	17	3	3	3	2
10,000	- 4.6	1	5	7	9	6	11	13	14	16	20	22	23	8	12	14	15	7	12	15	17	3	3	2	3
CAIRO TO KHARTOUM																									874 N.MI.
55,000	-56.5	-72	-15	-13	-12	-71	-14	-12	-11	-74	-18	-16	-15	-74	-17	-15	-14	-73	-16	-14	-33	3	3	3	3
40,000	-56.5	-54	3	5	6	-54	3	5	7	-49	7	9	10	-53	3	5	5	-52	4	6	7	3	4	2	2
30,000	-44.5	-40	4	6	7	-35	9	11	12	-28	17	18	19	-34	10	12	13	-34	10	13	15	2	2	2	2
20,000	-21.2	-12	9	11	11	-10	11	13	14	-4	17	19	19	-8	13	14	15	-9	13	15	16	2	2	2	2
10,000	- 4.6	4	9	11	12	7	11	13	14	14	18	19	20	9	13	15	15	8	13	15	16	3	3	2	2
CAIRO TO KUWAIT																									865 N.MI.
55,000	-56.5	-66	-10	-8	-6	-65	-8	-6	-5	-72	-15	-13	-12	-69	-12	-10	-8	-68	-11	-9	-7	3	3	3	3
40,000	-56.5	-54	3	5	7	-54	2	5	7	-46	10	12	13	-55	2	4	5	-52	4	7	9	4	4	3	3
30,000	-44.5	-44	1	3	4	-40	5	7	8	-26	19	20	21	-37	8	9	10	-37	8	12	14	3	3	3	3
20,000	-21.2	-17	4	6	7	-14	7	9	10	-2	19	21	22	-10	11	12	13	-11	10	14	16	3	3	3	2
10,000	- 4.6	-1	3	6	7	3	8	10	11	15	20	21	22	7	12	13	14	6	11	14	16	3	3	2	2
CAIRO TO LIBREVILLE																									2178 N.MI.
55,000	-56.5	-74	-18	-16	-15	-73	-17	-15	-14	-75	-19	-17	-16	-75	-19	-17	-16	-75	-18	-16	-15	3	3	3	3
40,000	-56.5	-54	3	5	6	-53	4	6	7	-52	5	6	7	-53	4	5	6	-53	4	5	6	3	3	2	2
30,000	-44.5	-37	7	8	9	-33	12	13	14	-30	15	16	17	-33	12	13	14	-33	11	13	15	2	2	2	2
20,000	-21.2	-10	11	13	13	-8	13	15	15	-4	17	18	18	-7	14	15	16	-7	14	16	16	2	2	2	1
10,000	- 4.6	7	11	13	14	9	13	15	15	12	16	17	18	10	14	15	16	9	14	15	16	2	2	2	1

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY				APRIL				JULY				OCTOBER				ANNUAL				STANDARD DEVIATION			
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
CAIRO TO LISBON																									2053 N.MI.
55,000	-56.5	-61	-5	-2	-0	-59	-3	-1	1	-65	-8	-6	-5	-63	-7	-5	-3	-62	-6	-3	-1	4	5	5	5
40,000	-56.5	-56	0	4	5	-57	-0	3	5	-50	7	9	10	-56	0	3	4	-55	2	5	7	5	5	5	5
30,000	-44.5	-46	-2	0	1	-44	1	3	4	-55	11	13	14	-40	4	7	8	-41	4	7	9	5	5	5	5
20,000	-21.2	-20	1	5	5	-17	4	7	8	-8	13	15	16	-13	8	10	11	-15	7	10	11	4	5	2	5
10,000	-4.6	-4	1	3	5	0	5	7	8	10	14	16	17	3	8	10	11	2	7	10	12	4	5	5	5
CAIRO TO LONDON																									1905 N.MI.
55,000	-56.5	-58	-7	1	3	-57	-0	2	3	-59	-3	-0	1	-61	-4	-2	-1	-59	-2	1	2	4	4	5	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-50	7	9	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-49	-4	-2	-1	-46	-1	1	3	-36	9	11	12	-42	3	5	6	-43	2	5	7	4	4	3	3
20,000	-21.2	-24	-3	0	2	-20	2	4	6	-10	11	13	14	-15	6	8	9	-17	4	7	9	5	4	3	5
10,000	-4.6	-8	-3	-0	1	-3	1	4	6	6	10	12	13	1	5	8	9	-1	4	7	9	4	4	3	4
CAIRO TO MADRID																									1807 N.MI.
55,000	-56.5	-61	-4	-1	0	-59	-3	-0	1	-65	-8	-6	-5	-63	-6	-4	-3	-62	-5	-2	-1	4	5	5	5
40,000	-56.5	-56	0	4	5	-57	-0	3	5	-49	7	9	10	-56	0	3	4	-55	2	5	7	5	5	5	5
30,000	-44.5	-47	-2	-0	1	-44	1	3	4	-55	11	13	14	-40	4	6	8	-41	3	7	9	3	3	5	5
20,000	-21.2	-21	0	3	4	-17	4	6	7	-8	13	15	16	-14	8	9	10	-15	6	9	11	4	5	2	5
10,000	-4.6	-4	0	5	4	-0	4	7	8	9	14	16	17	3	8	9	10	2	7	10	12	4	4	5	5
CAIRO TO MILAN																									1612 N.MI.
55,000	-56.5	-59	-5	0	2	-58	-1	1	2	-62	-6	-4	-3	-62	-6	-3	-2	-60	-4	-1	0	4	5	5	5
40,000	-56.5	-56	0	3	5	-57	-1	1	5	-49	8	10	11	-56	0	3	4	-55	2	5	7	5	5	5	5
30,000	-44.5	-48	-4	-2	-0	-45	-0	2	3	-34	11	13	14	-41	4	6	7	-42	3	6	8	3	3	3	3
20,000	-21.2	-25	-2	1	3	-19	3	5	6	-9	13	14	15	-14	7	9	10	-16	5	8	10	4	4	5	5
10,000	-4.6	-7	-2	1	2	-2	3	5	7	7	12	14	15	2	7	9	10	0	5	8	10	4	4	3	3
CAIRO TO MOSCOW																									1571 N.MI.
55,000	-56.5	-58	-1	2	3	-56	1	3	4	-57	-1	1	2	-60	-3	-1	1	-58	-1	1	3	4	3	3	4
40,000	-56.5	-57	-0	3	4	-55	1	4	6	-48	9	11	12	-56	1	3	5	-54	3	6	8	4	5	3	4
30,000	-44.5	-50	-6	-4	-2	-46	-1	2	3	-34	10	13	14	-42	2	5	6	-43	1	6	8	3	4	4	3
20,000	-21.2	-25	-4	-1	1	-20	1	4	6	-10	11	14	15	-16	5	7	9	-18	3	7	9	5	5	3	4
10,000	-4.6	-10	-6	-2	-1	-3	1	4	6	5	10	12	13	-0	4	7	8	-2	2	6	8	5	5	3	4
CAIRO TO MUNICH																									1408 N.MI.
55,000	-56.5	-59	-2	1	2	-57	-1	1	3	-61	-5	-3	-1	-62	-5	-3	-1	-60	-3	-0	1	4	5	5	5
40,000	-56.5	-56	0	3	5	-57	-0	3	5	-49	8	10	11	-56	0	3	4	-55	2	5	7	5	5	5	5
30,000	-44.5	-49	-4	-2	-1	-45	-1	2	3	-34	10	13	14	-41	3	6	7	-42	2	6	8	3	3	5	3
20,000	-21.2	-23	-2	1	2	-19	2	5	6	-9	12	14	15	-15	6	8	9	-17	5	8	10	4	4	5	3
10,000	-4.6	-8	-3	-0	1	-3	2	5	6	7	11	13	14	2	6	8	10	-1	4	7	9	4	4	5	5
CAIRO TO NAIROBI																									1913 N.MI.
55,000	-56.5	-75	-18	-17	-16	-74	-18	-16	-15	-75	-19	-17	-16	-76	-19	-17	-16	-75	-19	-17	-15	3	3	3	3
40,000	-56.5	-54	3	4	5	-53	4	6	7	-51	5	7	8	-53	4	5	6	-52	4	6	7	2	3	2	2
30,000	-44.5	-36	9	10	11	-32	12	13	14	-29	15	17	17	-32	12	14	14	-32	12	14	15	2	2	2	2
20,000	-21.2	-8	11	14	15	-7	14	15	16	-4	17	18	19	-7	15	16	16	-7	15	16	17	2	2	2	1
10,000	-4.6	7	12	14	14	9	13	15	15	12	17	18	19	9	14	15	16	9	14	16	17	2	2	2	2
CAIRO TO NATAL																									4391 N.MI.
55,000	-56.5	-74	-18	-16	-15	-74	-17	-15	-14	-74	-18	-16	-15	-75	-19	-17	-16	-74	-18	-16	-15	3	3	3	3
40,000	-56.5	-54	3	5	6	-53	4	6	7	-52	4	6	6	-53	4	5	6	-53	3	5	6	3	4	2	2
30,000	-44.5	-37	7	9	9	-33	12	13	14	-31	14	15	16	-33	12	13	14	-33	11	13	14	2	2	2	2
20,000	-21.2	-10	11	12	13	-8	13	14	15	-5	16	17	18	-7	14	15	16	-8	14	15	16	2	2	2	2
10,000	-4.6	6	11	12	13	8	13	14	15	12	16	18	18	9	14	15	16	9	13	15	16	2	2	2	2
CAIRO TO NEW DELHI																									2377 N.MI.
55,000	-56.5	-66	-9	-7	-6	-64	-8	-5	-4	-71	-15	-12	-11	-68	-11	-9	-7	-67	-11	-8	-6	4	4	4	4
40,000	-56.5	-54	2	5	7	-54	2	6	7	-47	10	12	14	-54	2	5	6	-52	4	8	10	4	5	4	4
30,000	-44.5	-43	2	5	6	-40	5	7	9	-26	18	20	22	-36	8	10	12	-36	8	12	15	4	4	3	3
20,000	-21.2	-18	4	6	7	-13	8	10	12	-2	19	21	22	-11	11	13	14	-11	10	14	16	4	3	3	3
10,000	-4.6	-1	3	6	7	5	9	12	13	15	20	21	22	7	11	13	14	6	11	14	16	4	3	2	3
CAIRO TO NEW YORK																									4865 N.MI.
55,000	-56.5	-58	-2	1	3	-56	1	3	4	-57	-1	2	3	-59	-3	-0	1	-58	-1	2	3	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	0	4	6	-52	5	7	9	-55	1	4	6	-55	2	5	7	6	6	4	5
30,000	-44.5	-48	-4	-1	0	-46	-1	1	2	-37	7	10	11	-42	2	5	6	-45	1	5	7	4	4	4	4
20,000	-21.2	-24	-3	1	3	-21	0	3	5	-11	10	12	13	-16	5	8	9	-18	3	7	9	5	4	3	4
10,000	-4.6	-9	-4	-1	1	-5	-0	3	5	4	9	11	12	-1	4	7	8	-3	2	5	7	6	4	3	4
CAIRO TO NICOSIA																									315 N.MI.
55,000	-56.5	-63	-7	-5	-3	-61	-5	-3	-2	-70	-14	-12	-11	-65	-9	-7	-5	-65	-9	-6	-4	3	3	3	3
40,000	-56.5	-55	2	5	6	-56	1	4	6	-47	10	12	13	-56	1	3	4	-53	3	6	8	4	5	3	5
30,000	-44.5	-46	-1	1	2	-42	2	4	5	-28	17	19	20	-39	5	7	8	-19	6	10	12	3	3	1	3
20,000	-21.2	-20	2	4	5	-16	5	7	8	-4	17	19	19	-12	9	10	11	-11	8	12	13	3	3	3	2
10,000	-4.6	-4	1	3	5	1	5	8	9	11	16	18	18	5	10	12	13	4	8	11	13	4	4	2	3
CAIRO TO OSLO																									1972 N.MI.
55,000	-56.5	-58	-1	2	3	-56	1	3	5	-56	0	3	4	-60	-3	-1	1	-57	-1	2	3	4	3	3	4
40,000	-56.5	-57	-1	3	4	-55	1	5	6	-49	8	10	12	-56	0	3	4	-54	2	6	8	5	5	4	4
30,000	-44.5	-50	-6	-4	-2	-47	-2	0	1	-37	8	10	12	-43	2	4	5	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-1	0	-21	-0	3	4	-11	10	12	13	-17	4	7	8	-19	2	6	8	5	4	3	4
10,000	-4.6	-11	-6	-3	-1	-5	-0	3	4	4	9	11	12	-1	3	6	7	-3	1	5	7	5	4	3	4
CAIRO TO PARIS																									1734 N.MI.
55,000	-56.5	-59	-2	1	2	-57	-1	2	3	-60	-4	-2	-1	-61	-5	-2	-1	-59	-3	-0	1	4	5	3	5
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-50	7	9	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-49	-4	-2	-1	-45	-1	2	3	-35	10	12	13	-41	3	5	7	-43	2	6	8	3	4	3	3
20,000	-21.2	-23	-2	1	2	-19	2	5	6	-9	12	14	15	-15	6	8	9	-17	4	8	10	4	4	3	3
10,000	-4.6	-7	-3	0	2	-3	2	5	6	6	11	13	14	1	6	8	9	-1	4	7	9	4	4	3	3
CAIRO TO RANGOON																									3603 N.MI.
55,000	-56.5	-70	-14	-12	-10	-68	-12	-9	-8	-74	-17	-15	-13	-72	-15	-13	-12	-71	-15	-12	-10	4	4	4	4
40,000	-56.5	-55	2	5	6	-55	3	6	8	-48	9	11	13	-54	2	5	6	-52	4	8	9	4	4	4	4
30,000	-44.5	-39	5	8	9	-37	8	11	12	-26	18	20	21	-34	10	13	14	-34	10	14	16	4	4	3	3
20,000	-21.2	-13	8	10	11	-10	11	13	14	-3	19	20	21	-8	13	15	16	-9	13	16	17	3	3	3	3
10,000	-4.6	3	7	9	10	7	12	14	15	14	19	20	21	8	12	14	15	8	13	15	17	3	3	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
CAIRO TO ROME																									1146 N.MI.
53,000	-56.5	-60	-4	-1	0	-59	-2	-0	1	-65	-8	-6	-5	-63	-6	-4	-3	-62	-5	-2	-1	4	3	3	3
40,000	-56.5	-56	1	4	5	-57	-1	3	5	-48	8	10	11	-56	0	3	4	-54	2	6	7	5	5	3	3
30,000	-44.5	-48	-3	-1	0	-44	0	3	4	-32	12	14	15	-40	4	6	7	-41	3	7	9	3	3	3	3
20,000	-21.2	-22	-1	2	3	-18	3	6	7	-8	14	15	16	-14	7	9	10	-15	6	9	11	4	4	3	3
10,000	- 4.6	-6	-1	2	3	-1	4	6	8	9	13	15	16	3	8	9	11	1	6	9	11	4	4	3	3
CAIRO TO SANTA MARIA																									2817 N.MI.
53,000	-56.5	-61	-5	-2	-1	-60	-3	-1	1	-64	-8	-6	-5	-63	-7	-5	-3	-62	-6	-3	-1	4	4	3	3
40,000	-56.5	-57	-0.	3	5	-57	-1	3	5	-51	6	8	9	-56	0	3	4	-55	1	4	6	5	5	3	3
30,000	-44.5	-46	-2	1	2	-43	1	3	4	-34	10	12	14	-40	5	7	8	-41	4	7	9	3	3	3	3
20,000	-21.2	-20	1	4	5	-17	4	7	8	-8	13	15	15	-13	8	10	11	-14	7	10	11	4	3	2	3
10,000	- 4.6	-3	1	4	5	0	5	7	8	9	14	16	16	3	8	10	11	2	7	10	12	4	3	2	3
CAIRO TO SHANNON																									2218 N.MI.
53,000	-56.5	-58	-2	1	3	-56	0	2	4	-58	-2	0	2	-60	-4	-2	-0	-58	-2	1	2	4	4	3	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	6	-50	7	9	11	-56	0	3	4	-55	2	5	7	5	6	4	4
30,000	-44.5	-49	-4	-2	-1	-46	-1	1	2	-36	8	11	12	-42	3	5	6	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	0	2	-20	1	4	6	-11	11	13	14	-16	5	8	9	-17	4	7	9	5	4	3	4
10,000	- 4.6	-8	-3	0	2	-3	1	4	5	5	10	12	13	1	5	8	9	-1	3	7	8	4	4	3	4
CAIRO TO SINGAPORE																									4457 N.MI.
53,000	-56.5	-75	-19	-17	-16	-74	-17	-15	-14	-76	-19	-17	-16	-76	-20	-18	-17	-75	-19	-16	-15	3	3	3	3
40,000	-56.5	-55	2	4	5	-52	4	6	8	-50	7	9	10	-54	2	5	6	-53	4	6	8	4	3	3	3
30,000	-44.5	-36	9	11	12	-33	11	13	14	-28	17	18	19	-33	12	13	14	-32	12	15	16	3	3	2	3
20,000	-21.2	-10	12	13	14	-8	13	15	16	-4	18	19	20	-7	14	16	16	-7	14	16	17	2	2	2	2
10,000	- 4.6	6	10	12	13	9	13	15	16	13	17	18	19	9	13	14	15	9	14	15	16	2	2	2	2
CAIRO TO STOCKHOLM																									1853 N.MI.
53,000	-56.5	-58	-1	2	3	-56	1	3	4	-56	0	2	4	-59	-3	-1	1	-57	-1	2	3	4	3	3	4
40,000	-56.5	-57	-1	2	4	-55	1	4	6	-49	8	10	12	-56	1	3	5	-54	2	6	8	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-47	-2	0	2	-36	8	11	12	-43	2	4	5	-44	0	4	6	4	4	4	3
20,000	-21.2	-26	-5	-1	0	-21	-0	3	5	-11	10	12	13	-17	4	7	8	-19	2	6	8	5	5	3	4
10,000	- 4.6	-11	-6	-3	-1	-5	-0	3	4	4	9	11	12	-1	3	6	8	-3	1	5	7	5	5	3	4
CAIRO TO TANANARIVE																									3087 N.MI.
53,000	-56.5	-76	-19	-17	-16	-75	-19	-16	-15	-74	-17	-16	-15	-76	-19	-17	-16	-75	-19	-17	-15	3	3	3	3
40,000	-56.5	-55	3	5	6	-52	4	6	7	-51	5	7	7	-55	4	5	6	-52	4	6	7	2	3	2	2
30,000	-44.5	-34	11	12	13	-32	13	14	15	-30	14	16	16	-32	12	14	14	-32	13	14	15	2	2	2	2
20,000	-21.2	-7	14	15	16	-7	15	16	16	-5	16	18	18	-7	15	16	16	-6	15	16	17	2	2	2	2
10,000	- 4.6	8	13	14	15	9	14	15	15	11	15	17	17	9	14	15	16	9	14	15	16	2	2	2	2
CAIRO TO TEHERAN																									1055 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-5	-3	-2	-70	-14	-12	-11	-65	-8	-6	-5	-65	-8	-6	-4	4	3	3	4
40,000	-56.5	-55	2	5	6	-55	2	5	7	-46	10	12	13	-55	1	3	4	-53	4	7	9	4	5	3	3
30,000	-44.5	-46	-1	1	2	-42	3	5	6	-27	18	20	21	-39	5	7	9	-38	6	10	13	3	3	3	3
20,000	-21.2	-20	1	4	5	-16	5	7	9	-3	18	20	21	-12	9	11	12	-13	8	12	14	4	3	3	3
10,000	- 4.6	-4	1	3	5	2	6	9	10	13	18	20	20	6	10	12	13	4	9	12	14	4	4	2	3
CAIRO TO TEL AVIV-JAFFA																									212 N.MI.
53,000	-56.5	-65	-9	-6	-5	-63	-6	-4	-3	-71	-15	-13	-12	-67	-11	-8	-7	-67	-10	-7	-6	3	3	3	3
40,000	-56.5	-54	2	5	6	-55	1	4	6	-47	10	12	12	-55	1	3	4	-53	4	7	8	4	5	3	3
30,000	-44.5	-45	-0	1	3	-41	4	5	7	-27	18	20	21	-38	6	8	9	-36	7	11	13	3	3	3	3
20,000	-21.2	-18	3	5	6	-15	6	8	9	-3	18	20	20	-12	10	11	12	-12	9	13	14	3	3	3	2
10,000	- 4.6	-2	2	5	6	2	6	9	10	13	17	19	20	6	11	13	13	5	9	12	14	3	3	2	2
CAIRO TO TRIPOLI																									946 N.MI.
53,000	-56.5	-64	-8	-6	-4	-62	-5	-4	-2	-70	-13	-11	-10	-66	-10	-7	-6	-65	-9	-6	-5	3	3	3	3
40,000	-56.5	-55	2	5	6	-56	1	4	5	-48	9	10	11	-56	1	3	4	-53	3	6	7	4	5	2	3
30,000	-44.5	-45	-1	1	2	-41	3	5	6	-30	15	17	18	-39	6	7	8	-39	6	9	12	3	3	3	3
20,000	-21.2	-19	2	5	6	-15	6	8	9	-5	16	18	18	-12	9	11	11	-13	8	11	13	3	3	2	2
10,000	- 4.6	-3	2	4	5	2	6	8	10	11	16	17	18	5	10	12	12	4	9	11	13	3	3	2	2
CAIRO TO TUNIS																									1130 N.MI.
53,000	-56.5	-62	-6	-1	-2	-60	-4	-2	-1	-67	-11	-9	-8	-64	-8	-6	-4	-63	-7	-4	-3	4	3	3	3
40,000	-56.5	-55	1	4	6	-57	-0	3	5	-48	9	10	11	-56	1	3	4	-54	3	6	7	5	5	3	3
30,000	-44.5	-46	-2	0	1	-43	1	4	5	-31	13	15	16	-40	5	7	8	-40	4	8	10	3	3	3	3
20,000	-21.2	-20	1	3	5	-16	5	7	8	-6	15	16	17	-13	8	10	11	-14	7	10	12	4	3	2	2
10,000	- 4.6	-4	1	3	4	0	5	7	9	10	15	16	17	4	9	10	11	3	7	10	12	4	4	2	3
CAIRO TO VIENNA																									1276 N.MI.
53,000	-56.5	-59	-2	1	2	-57	-1	1	3	-61	-5	-3	-2	-62	-5	-3	-1	-60	-3	-1	1	4	3	3	3
40,000	-56.5	-56	0	3	5	-57	-0	3	5	-48	8	10	12	-56	0	3	4	-54	2	6	7	5	5	3	3
30,000	-44.5	-49	-4	-2	-1	-45	-1	2	3	-34	11	13	14	-41	3	5	7	-42	2	6	8	3	3	3	3
20,000	-21.2	-24	-2	1	2	-19	2	5	6	-9	12	14	15	-15	6	8	9	-17	5	8	10	4	4	3	3
10,000	- 4.6	-8	-3	-1	1	-3	2	5	6	7	11	13	14	2	6	8	10	-1	4	7	9	4	4	3	3
CAIRO TO WARSAW																									1400 N.MI.
53,000	-56.5	-58	-2	1	3	-57	-0	2	3	-59	-3	-1	0	-61	-4	-2	-1	-59	-2	0	2	4	3	3	3
40,000	-56.5	-57	-0	3	5	-56	0	4	6	-48	8	10	12	-56	0	3	4	-54	2	6	8	5	5	3	3
30,000	-44.5	-50	-5	-3	-2	-46	-1	1	2	-35	10	12	13	-42	3	5	6	-43	2	6	8	3	3	3	3
20,000	-21.2	-24	-3	-0	1	-20	1	4	6	-10	12	13	14	-16	6	8	9	-17	4	7	9	4	4	3	3
10,000	- 4.6	-9	-5	-2	-0	-3	1	4	6	6	10	12	13	1	5	8	9	-2	3	6	8	4	4	3	4
CAIRO TO ZURICH																									1480 N.MI.
53,000	-56.5	-59	-2	1	2	-58	-1	1	3	-61	-5	-3	-2	-62	-5	-3	-2	-60	-3	-1	1	4	3	3	3
40,000	-56.5	-56	0	3	5	-57	-1	3	5	-49	7	10	11	-56	0	3	4	-55	2	5	7	5	5	3	3
30,000	-44.5	-49	-4	-2	-1	-45	-1	2	3	-34	10	12	14	-41	3	6	7	-42	2	6	8	3	3	3	3
20,000	-21.2	-23	-2	1	2	-19	2	5	6	-9	12	14	15	-15	6	8	10	-16	5	8	10	4	4	3	3
10,000	- 4.6	-7	-3	0	2	-2	2	5	6	7	12	13	14	2	6	8	10	-0	4	8	9	4	4	3	3
CALCUTTA TO COLOMBO																									1070 N.MI.
53,000	-56.5	-79	-22	-20	-19	-75	-18	-16	-15	-77	-21	-18	-17	-79	-22	-20	-19	-77	-21	-18	-16	3	4	4	3
40,000	-56.5	-56	0	3	4	-52	5	7	8	-52	5	7	8	-54	2	5	6	-53	3	6	7	3	3	3	3
30,000	-44.5	-33	12	13	14	-31	13	15	17	-28	16	18	18	-32	13	15	16	-31	13	16	17	3	3	2	3
20,000	-21.2	-7	15	16	17	-6	15	17	18	-4	17	18	19	-6	16	17	18	-6	16	17	18	2	2	2	2
10,000	- 4.6	9	13	15	15	10	14	16	17	11	15	16	17	9	13	15	15	9	14	15	16	2	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																				STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
CALCUTTA TO DAMASCUS																									2810 N.MI.
55,000	-56.5	-67	-10	-8	-6	-65	-8	-6	-4	-72	-15	-13	-11	-68	-12	-9	-8	-68	-12	-8	-7	4	4	4	4
40,000	-56.5	-55	2	5	7	-54	3	6	8	-47	9	12	14	-54	2	5	6	-52	4	8	10	5	5	4	4
30,000	-44.5	-42	3	6	7	-39	5	8	10	-26	18	20	22	-36	9	11	13	-36	9	13	15	4	4	3	4
20,000	-21.2	-17	5	7	8	-12	9	11	13	-2	19	21	22	-10	11	13	15	-10	11	14	16	4	4	3	3
10,000	- 4.6	-0	4	7	8	6	10	12	14	14	19	21	21	7	11	13	14	7	11	14	16	4	3	2	3
CALCUTTA TO DHAHRAN																									2096 N.MI.
55,000	-56.5	-71	-15	-12	-11	-69	-13	-10	-9	-74	-18	-15	-13	-73	-17	-14	-13	-72	-16	-12	-11	4	4	4	4
40,000	-56.5	-54	2	5	7	-53	4	7	9	-48	9	12	13	-54	3	6	7	-52	4	8	10	5	5	4	4
30,000	-44.5	-36	7	10	11	-36	9	12	13	-26	18	20	22	-33	11	14	15	-33	11	15	17	5	4	3	4
20,000	-21.2	-13	9	11	12	-9	12	15	16	-2	19	21	22	-7	14	16	17	-8	13	16	18	3	3	3	3
10,000	- 4.6	4	8	10	11	9	14	16	17	15	19	21	22	8	13	14	15	9	13	16	18	3	3	2	3
CALCUTTA TO DJAKARTA																									2037 N.MI.
55,000	-56.5	-81	-24	-22	-21	-77	-21	-19	-18	-78	-21	-19	-18	-79	-23	-21	-20	-79	-22	-20	-19	3	3	3	3
40,000	-56.5	-55	1	3	4	-52	5	6	7	-53	3	5	5	-54	2	4	5	-54	3	5	6	2	2	2	2
30,000	-44.5	-32	13	14	15	-30	14	16	1A	-10	15	16	16	-32	13	14	15	-11	14	15	16	2	2	2	2
20,000	-21.2	-6	16	17	18	-5	16	17	1A	-5	17	17	18	-6	16	17	17	-5	16	17	17	2	2	1	2
10,000	- 4.6	9	14	15	15	10	14	1A	16	10	14	15	16	9	14	15	15	9	14	15	16	2	2	1	1
CALCUTTA TO GAYA																									230 N.MI.
55,000	-56.5	-73	-17	-14	-13	-69	-13	-10	-8	-75	-19	-1A	-14	-71	-17	-14	-13	-73	-16	-13	-11	4	4	5	4
40,000	-56.5	-5A	1	4	5	-51	4	7	9	-49	7	10	12	-54	3	6	8	-51	4	8	10	4	5	5	5
30,000	-44.5	-37	8	11	12	-35	10	13	14	-26	18	20	21	-32	12	15	1A	-13	12	15	17	4	4	3	4
20,000	-21.2	-11	10	12	14	-9	12	15	16	-2	19	20	21	-A	15	17	18	-7	14	17	18	3	3	2	1
10,000	- 4.A	5	10	12	13	8	13	15	16	12	17	18	19	8	12	14	15	8	13	15	16	3	1	2	3
CALCUTTA TO HONG KONG																									1427 N.MI.
55,000	-56.5	-74	-17	-15	-14	-72	-16	-13	-12	-75	-18	-15	-14	-72	-16	-13	-12	-73	-17	-14	-13	4	4	4	4
40,000	-56.5	-55	2	4	5	-52	4	7	R	-50	6	8	10	-54	3	5	6	-55	4	6	8	3	3	3	3
30,000	-44.5	-35	10	12	13	-32	12	14	15	-27	17	19	19	-31	13	15	1A	-31	13	15	17	3	3	2	3
20,000	-21.2	-10	12	14	15	-7	14	16	17	-3	18	19	20	-6	15	17	18	-A	15	17	18	3	3	2	2
10,000	- 4.6	5	9	11	T2	9	13	15	16	12	16	17	18	8	13	14	TS	8	13	15	15	3	2	1	2
CALCUTTA TO ISTANBUL																									11A7 N.MI.
55,000	-56.5	-63	-6	-4	-2	-61	-5	-2	-1	-67	-10	-8	-A	-64	-8	-5	-4	-A4	-7	-4	-3	4	4	4	4
40,000	-56.5	-55	1	4	6	-54	2	5	7	-47	9	T2	14	-55	2	4	6	-53	4	7	10	5	5	4	4
30,000	-44.5	-45	-0	2	4	-41	3	6	8	-28	16	19	20	-38	6	9	10	-38	A	11	13	4	4	4	4
20,000	-21.2	-20	1	4	5	-T5	7	9	11	-4	17	19	20	-12	9	11	13	-13	8	12	14	4	4	3	3
10,000	- 4.6	-4	0	3	5	3	7	10	11	12	1A	18	19	4	9	11	13	4	8	12	14	4	4	3	4
CALCUTTA TO KARACHI																									1175 N.MI.
55,000	-56.5	-73	-1A	-T4	-12	-70	-13	-11	-9	-75	-18	-15	-14	-74	-17	-15	-13	-73	-16	-13	-11	4	4	5	4
40,000	-56.5	-55	2	5	7	-53	4	7	9	-48	8	12	11	-54	3	A	8	-53	4	8	10	5	5	5	5
30,000	-44.5	-37	8	11	13	-35	9	13	14	-26	18	20	21	-32	12	15	1A	-33	12	15	17	5	5	3	4
20,000	-21.2	-11	10	12	13	-9	13	TS	1A	-2	19	20	21	-6	15	17	1A	-7	14	17	18	3	4	3	3
10,000	- 4.6	5	9	11	12	9	14	TA	17	14	18	20	20	8	13	14	15	9	13	16	17	3	3	2	3
CALCUTTA TO LISBON																									4896 N.MI.
55,000	-56.5	-60	-4	-1	1	-59	-2	0	2	-A2	-A	-3	-1	-62	-A	-3	-2	-A1	-4	-1	0	4	4	4	4
40,000	-56.5	-56	0	3	5	-55	1	4	6	-49	8	10	12	-55	1	4	5	-54	2	A	8	5	5	4	4
30,000	-44.5	-47	-2	0	2	-43	1	4	6	-32	12	15	16	-40	5	7	9	-41	4	8	10	4	4	4	4
20,000	-21.2	-22	-1	2	4	-17	5	7	9	-7	14	16	17	-14	7	10	11	-15	6	10	12	4	4	3	4
10,000	- 4.6	-6	-1	2	3	0	5	7	9	9	14	16	17	2	7	9	11	1	6	9	11	5	4	3	4
CALCUTTA TO MADRAS																									747 N.MI.
55,000	-56.5	-77	-21	-19	-18	-74	-17	-15	-13	-77	-20	-18	-16	-78	-21	-19	-TA	-76	-20	-17	-15	5	4	4	5
40,000	-56.5	-5A	0	3	4	-52	4	7	H	-51	6	9	10	-54	2	5	7	-53	3	7	8	4	4	4	4
30,000	-44.5	-34	10	13	14	-32	12	15	16	-28	17	19	19	-32	13	15	16	-31	13	16	17	3	4	3	3
20,000	-21.2	-7	14	15	1A	-7	14	16	17	-4	18	19	19	-6	1A	17	1R	-A	15	17	18	3	3	2	2
10,000	- 4.A	H	12	14	15	T0	14	16	17	11	16	17	17	9	13	14	15	9	14	15	1A	2	2	2	2
CALCUTTA TO MADRID																									4619 N.MI.
55,000	-5A.5	-60	-4	-1	1	-59	-2	0	2	-62	-A	-3	-2	-62	-6	-3	-2	-61	-4	-1	0	4	4	4	4
40,000	-56.5	-56	0	4	5	-55	1	5	6	-49	R	11	12	-55	1	4	5	-54	3	6	8	5	5	4	4
30,000	-44.5	-47	-2	0	2	-43	T	4	6	-32	13	15	16	-40	5	7	9	-40	4	R	10	4	4	4	4
20,000	-21.2	-22	-1	2	4	-17	5	7	9	-7	14	1A	17	-14	7	10	11	-15	6	10	12	4	4	3	4
10,000	- 4.6	-6	-2	2	3	0	5	7	9	9	14	16	17	2	7	9	11	1	A	9	11	5	4	3	4
CALCUTTA TO MANILA																									1912 N.MI.
55,000	-56.5	-77	-20	-18	-17	-75	-19	-17	-15	-77	-20	-17	-16	-75	-18	-1A	-15	-76	-19	-17	-15	3	4	4	3
40,000	-56.5	-55	2	3	4	-52	5	6	7	-52	4	6	7	-54	3	5	6	-53	1	5	6	3	3	3	3
30,000	-44.5	-33	12	13	14	-11	13	15	16	-29	16	17	18	-31	14	15	16	-11	14	15	1A	3	3	2	2
20,000	-21.2	-7	14	15	16	-5	16	17	1R	-4	17	1R	19	-6	16	17	1H	-6	1A	17	18	2	2	1	2
10,000	- 4.6	7	12	13	14	10	14	16	16	11	16	17	17	9	13	15	15	9	14	15	1A	2	2	1	2
CALCUTTA TO MILAN																									4022 N.MI.
55,000	-5A.5	-60	-4	-1	1	-59	-2	1	2	-A1	-4	-1	-0	-62	-5	-2	-1	-60	-4	-T	1	4	4	4	4
40,000	-56.5	-5A	0	3	5	-55	2	5	7	-4R	A	11	13	-55	2	4	6	-54	3	7	9	5	5	4	4
30,000	-44.5	-47	-3	-0	1	-43	1	4	6	-32	12	15	17	-40	-5	7	9	-41	4	8	11	4	4	4	4
20,000	-21.2	-23	-2	2	3	-17	5	7	9	-7	14	1A	17	-14	7	10	11	-15	6	10	12	5	4	3	4
10,000	- 4.6	-7	-2	1	2	-0	4	7	9	9	13	15	16	2	A	9	10	1	5	9	11	5	4	3	4
CALCUTTA TO MOSCOW																									2995 N.MI.
55,000	-56.5	-60	-3	-0	1	-57	-1	2	3	-58	-2	1	3	-60	-3	-0	1	-59	-2	1	2	4	4	4	4
40,000	-56.5	-56	0	3	5	-53	3	7	R	-48	9	12	13	-54	3	6	8	-53	4	8	10	5	5	5	5
30,000	-44.5	-48	-3	-1	1	-43	2	5	6	-52	11	16	17	-40	4	7	8	-41	4	8	11	4	5	4	4
20,000	-21.2	-24	-3	1	3	-17	4	7	9	-8	13	16	17	-16	5	R	10	-16	5	9	11	5	5	3	5
10,000	- 4.6	-8	-4	-0	1	-1	3	6	H	8	12	15	16	-0	4	7	9	-1	4	8	10	5	4	3	4
CALCUTTA TO NAGPUR																									551 N.MI.
55,000	-56.5	-74	-18	-16	-14	-71	-14	-12	-10	-76	-19	-16	-15	-75	-18	-16	-15	-74	-18	-14	-12	3	4	5	4
40,000	-5A.5	-56	1	4	5	-53	4	7	9	-49	7	11	12	-54	3	6	8	-55	4	8	10	4	5	5	5
30,000	-44.5	-36	9	11	13	-34	10	13	15	-27	18	20	21	-32	13	15	16	-32	12	15	17	4	4	3	4
20,000	-21.2	-10	11	13	14	-8	13	15	16	-5	18	20	21	-6	15	17	18	-7	15	17	18	3	3	2	3
10,000	- 4.6	6	11	12	13	9	14	16	16	12	17	18	19	8	13	14	15	9	13	15	16	3	3	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE — JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
CALCUTTA TO NANKING																									1707 N.MI.
53,000	-56.5	-69	-12	-9	-7	-67	-11	-8	-7	-71	-14	-11	-9	-68	-12	-9	-7	-69	-12	-9	-8	5	4	5	4
40,000	-56.5	-54	3	5	7	-53	4	7	8	-49	8	10	12	-53	4	6	8	-52	5	8	9	4	4	4	4
30,000	-44.5	-38	6	9	11	-16	9	11	12	-27	18	20	21	-33	11	14	15	-34	11	14	16	4	4	3	4
20,000	-21.2	-15	6	9	10	-10	11	13	14	-5	19	20	21	-9	12	15	16	-9	12	15	16	4	3	2	3
10,000	- 4.6	-0	4	7	8	5	9	11	12	12	16	17	18	5	10	11	13	5	10	12	14	4	3	2	3
CALCUTTA TO NEW DELHI																									708 N.MI.
53,000	-56.5	-71	-15	-12	-11	-68	-11	-8	-7	-74	-18	-14	-13	-72	-15	-13	-11	-71	-15	-11	-9	4	4	5	4
40,000	-56.5	-55	2	5	6	-55	3	7	8	-49	8	11	13	-54	3	6	8	-53	4	8	10	5	5	5	5
30,000	-44.5	-38	7	10	11	-36	8	11	13	-26	18	20	22	-33	12	14	16	-33	11	15	17	5	5	3	4
20,000	-21.2	-13	8	11	12	-10	11	14	15	-2	19	21	22	-7	14	16	17	-8	13	16	18	3	4	3	3
10,000	- 4.6	3	8	10	11	8	13	15	16	13	17	18	19	7	12	14	15	8	12	15	16	3	3	2	3
CALCUTTA TO PEIPING																									1748 N.MI.
53,000	-56.5	-64	-7	-5	-3	-63	-7	-4	-3	-67	-10	-7	-6	-65	-9	-6	-4	-65	-8	-5	-4	4	4	5	4
40,000	-56.5	-54	3	5	7	-51	4	7	9	-48	9	12	13	-53	4	7	8	-52	5	8	10	4	5	4	4
30,000	-44.5	-42	2	5	7	-40	5	8	10	-27	18	20	22	-36	9	11	13	-16	8	13	15	4	4	4	4
20,000	-21.2	-19	2	5	6	-14	7	10	11	-3	18	20	21	-11	10	12	14	-12	9	13	15	4	4	3	4
10,000	- 4.6	-4	1	3	5	2	6	9	10	11	16	17	18	1	7	10	11	3	8	11	12	4	4	2	4
CALCUTTA TO RANGOON																									554 N.MI.
53,000	-56.5	-76	-20	-17	-16	-73	-16	-14	-13	-77	-20	-17	-16	-76	-19	-17	-15	-75	-19	-16	-14	3	4	4	4
40,000	-56.5	-56	1	3	4	-52	5	7	8	-51	5	8	9	-54	2	5	6	-51	3	6	8	3	3	4	4
30,000	-44.5	-34	10	12	13	-32	11	15	16	-27	17	18	19	-32	13	15	16	-31	13	15	17	3	3	2	3
20,000	-21.2	-8	13	15	16	-6	15	17	17	-4	17	19	19	-6	15	17	18	-6	15	17	18	3	3	2	2
10,000	- 4.6	7	12	14	15	9	14	15	16	11	16	17	18	8	13	14	15	9	14	15	16	3	2	1	2
CALCUTTA TO ROME																									5891 N.MI.
53,000	-56.5	-61	-5	-2	-0	-60	-3	-1	1	-64	-8	-5	-3	-63	-7	-4	-3	-62	-6	-3	-1	4	4	4	4
40,000	-56.5	-56	1	4	6	-55	2	5	7	-48	9	12	13	-55	1	4	6	-53	3	7	9	5	5	4	4
30,000	-44.5	-46	-2	1	2	-42	2	5	6	-10	14	17	18	-19	5	8	9	-40	5	9	12	4	4	4	4
20,000	-21.2	-21	-0	3	4	-16	5	8	10	-6	15	17	18	-13	8	10	12	-14	7	11	13	4	4	3	3
10,000	- 4.6	-6	-1	2	4	1	6	8	10	10	15	17	18	1	8	10	11	2	7	10	12	4	4	3	4
CALCUTTA TO SINGAPORE																									1565 N.MI.
53,000	-56.5	-80	-23	-21	-20	-77	-20	-18	-17	-78	-21	-19	-18	-79	-22	-20	-19	-78	-22	-19	-18	3	3	4	3
40,000	-56.5	-56	1	3	4	-52	5	6	7	-51	3	5	6	-54	2	4	5	-54	1	5	6	3	2	3	3
30,000	-44.5	-32	12	14	15	-30	14	16	17	-29	15	16	17	-31	11	15	15	-11	14	15	16	2	2	2	2
20,000	-21.2	-6	15	17	18	-5	16	18	18	-4	17	18	18	-6	16	17	17	-5	16	17	18	2	2	1	2
10,000	- 4.6	9	13	15	15	10	14	16	16	10	15	16	16	9	14	15	15	9	14	15	16	2	2	1	2
CALCUTTA TO TAIPEI																									1818 N.MI.
53,000	-56.5	-72	-16	-13	-12	-71	-15	-12	-11	-71	-17	-14	-12	-71	-15	-12	-10	-72	-16	-13	-11	4	4	4	4
40,000	-56.5	-54	3	5	6	-52	4	7	8	-50	7	9	10	-53	1	6	7	-52	4	7	8	3	3	3	3
30,000	-44.5	-35	10	12	11	-11	11	14	15	-27	17	19	20	-11	13	15	16	-32	13	15	17	3	3	2	3
20,000	-21.2	-11	11	13	14	-7	14	16	16	-1	18	19	20	-6	15	17	18	-7	14	16	17	3	3	2	1
10,000	- 4.6	3	8	10	11	8	12	14	15	12	16	17	18	8	12	14	15	8	12	14	15	1	2	2	2
CALCUTTA TO TANANARIVE																									5478 N.MI.
53,000	-56.5	-79	-22	-20	-19	-76	-20	-17	-16	-75	-19	-17	-15	-78	-21	-19	-18	-77	-20	-18	-17	3	4	3	3
40,000	-56.5	-54	2	4	5	-52	5	7	8	-52	4	6	7	-51	3	5	6	-53	4	6	7	3	3	3	3
30,000	-44.5	-11	13	15	16	-31	11	15	16	-30	14	16	16	-32	12	14	15	-31	13	15	16	2	3	2	2
20,000	-21.2	-5	16	17	17	-6	15	16	17	-5	16	18	18	-6	15	16	17	-6	16	17	18	1	2	2	2
10,000	- 4.6	9	14	14	15	10	14	15	16	9	14	15	15	9	14	15	15	9	14	15	16	1	2	2	2
CALCUTTA TO TEHERAN																									2081 N.MI.
53,000	-56.5	-67	-10	-8	-6	-65	-8	-6	-4	-71	-15	-12	-10	-68	-11	-9	-7	-68	-11	-8	-6	4	4	5	4
40,000	-56.5	-55	2	5	7	-54	1	6	8	-47	9	12	14	-54	2	5	7	-53	4	8	10	5	5	5	5
30,000	-44.5	-41	3	6	8	-19	6	9	10	-27	18	20	22	-16	9	12	11	-36	9	13	15	5	5	4	4
20,000	-21.2	-17	4	7	8	-12	9	12	13	-2	19	21	22	-10	11	14	15	-10	11	15	16	4	4	3	3
10,000	- 4.6	-0	4	7	8	6	10	13	14	14	19	21	21	6	11	13	14	6	11	14	16	4	3	2	3
CALCUTTA TO TEL AVIV-JAFFA																									2880 N.MI.
53,000	-56.5	-68	-11	-9	-7	-66	-9	-7	-5	-72	-16	-13	-12	-69	-13	-10	-9	-69	-12	-9	-7	4	4	4	4
40,000	-56.5	-54	2	5	7	-54	3	6	8	-47	9	12	14	-54	2	5	6	-52	4	8	10	4	5	4	4
30,000	-44.5	-41	3	6	8	-39	6	9	10	-26	18	20	22	-35	9	12	13	-35	9	13	15	4	4	3	4
20,000	-21.2	-18	5	7	9	-12	9	12	11	-2	19	21	22	-9	12	14	15	-10	11	15	17	3	1	3	3
10,000	- 4.6	0	5	7	8	6	11	13	14	15	19	21	22	7	12	11	15	7	12	15	16	3	3	2	3
CALCUTTA TO TRIPOLI																									3966 N.MI.
53,000	-56.5	-65	-8	-6	-5	-63	-6	-4	-3	-70	-14	-11	-10	-66	-10	-7	-6	-66	-10	-7	-5	4	4	4	4
40,000	-56.5	-55	2	5	6	-55	2	5	7	-47	9	12	13	-55	1	4	6	-51	4	7	9	5	5	4	4
30,000	-44.5	-43	1	4	5	-41	4	7	8	-28	17	19	20	-17	7	10	11	-37	7	11	14	4	4	3	3
20,000	-21.2	-18	3	5	7	-14	7	10	11	-4	18	20	21	-11	10	12	13	-12	10	13	15	4	4	3	3
10,000	- 4.6	-2	2	5	6	4	8	11	12	11	18	19	20	6	10	12	11	5	10	13	15	4	4	2	3
CALCUTTA TO TUNIS																									4055 N.MI.
53,000	-56.5	-63	-6	-1	-2	-61	-5	-2	-1	-67	-11	-8	-7	-65	-8	-5	-4	-64	-7	-4	-3	4	4	4	4
40,000	-56.5	-55	1	4	6	-55	1	5	7	-47	9	12	13	-55	1	4	5	-53	3	7	9	5	5	4	4
30,000	-44.5	-45	-1	2	4	-42	3	5	7	-29	15	18	19	-18	6	9	10	-19	6	10	12	4	4	4	4
20,000	-21.2	-20	1	4	5	-15	6	9	10	-5	16	18	19	-12	9	11	12	-13	8	12	14	4	4	3	3
10,000	- 4.6	-4	1	1	5	2	7	9	11	11	16	18	19	4	9	11	12	4	8	12	13	4	4	3	3
CALGARY TO DENVER																									780 N.MI.
53,000	-56.5	-59	-2	1	3	-56	0	1	4	-59	-2	-0	1	-61	-4	-2	-1	-59	-2	1	2	5	4	3	4
40,000	-56.5	-56	1	5	8	-57	-0	4	6	-54	2	5	6	-56	0	1	5	-56	1	4	5	7	6	4	5
30,000	-44.5	-50	-6	-4	-2	-48	-3	-1	0	-18	7	9	10	-43	2	4	5	-45	-0	3	5	4	3	3	4
20,000	-21.2	-27	-6	-1	1	-21	-0	3	4	-11	11	12	13	-17	4	7	9	-19	2	6	8	7	4	3	5
10,000	- 4.6	-12	-7	-3	0	-4	0	4	6	9	13	15	17	-1	4	8	10	-2	2	7	9	7	5	3	6
CALGARY TO LOS ANGELES																									1048 N.MI.
53,000	-56.5	-60	-4	-0	1	-58	-1	1	3	-60	-4	-2	-1	-62	-6	-3	-2	-60	-4	-1	1	4	4	3	4
40,000	-56.5	-57	-1	4	6	-57	-1	3	5	-54	2	4	6	-56	0	3	5	-56	0	3	5	7	5	3	4
30,000	-44.5	-49	-4	-2	-0	-46	-2	0	1	-38	7	9	10	-42	3	5	6	-44	1	4	6	4	3	3	3
20,000	-21.2	-24	-3	2	4	-20	1	4	6	-10	11	13	14	-16	5	9	10	-17	4	7	9	6	4	2	5
10,000	- 4.6	-8	-3	1	3	-3	1	5	6	9	14	16	17	1	5	9	11	-0	4	8	10	7	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
CALGARY TO PHOENIX																						1064 N.MI.			
55,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-61	-5	-3	-2	-63	-6	-4	-3	-61	-4	-1	0	4	4	3	4
40,000	-56.5	-56	0	5	7	-57	-1	3	5	-56	2	4	6	-56	0	3	5	-56	1	3	5	7	5	3	4
30,000	-44.5	-49	-4	-2	-1	-47	-2	0	1	-37	8	9	10	-42	3	5	6	-43	1	4	6	3	3	2	3
20,000	-21.2	-24	-3	1	4	-20	1	4	6	-10	12	13	14	-15	6	9	10	-17	4	7	9	6	4	2	4
10,000	-4.6	-8	-4	1	3	-2	2	5	7	10	15	17	18	1	6	9	11	0	5	9	11	7	5	3	5
CAMPECHE TO CIUDAD DEL CARMEN																						102 N.MI.			
55,000	-56.5	-77	-20	-18	-17	-75	-18	-17	-16	-73	-17	-16	-15	-78	-22	-20	-19	-76	-19	-17	-17	3	3	2	3
40,000	-56.5	-55	1	3	3	-55	2	3	4	-56	0	1	2	-54	2	4	4	-55	1	3	4	2	2	1	2
30,000	-44.5	-56	8	10	10	-35	10	11	11	-33	12	13	13	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	13	15	16	-7	15	16	17	-6	15	16	16	-6	15	16	17	-7	15	16	16	2	2	1	1
10,000	-4.6	8	12	14	15	9	14	16	16	9	14	15	15	10	15	16	16	9	14	15	15	2	2	1	1
CAMPECHE TO MERIDA																						81 N.MI.			
55,000	-56.5	-76	-20	-18	-17	-74	-18	-16	-15	-73	-16	-15	-15	-78	-22	-20	-19	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-56	1	2	3	-55	2	3	4	-56	0	1	2	-54	2	4	4	-55	1	3	3	2	2	1	2
30,000	-44.5	-56	8	9	10	-35	9	10	11	-33	12	13	13	-32	12	13	14	-34	10	12	13	2	2	1	2
20,000	-21.2	-8	13	15	16	-7	14	16	16	-6	15	14	16	-6	15	16	17	-7	14	16	16	2	2	1	2
10,000	-4.6	8	12	14	14	9	13	15	16	9	14	15	15	10	14	15	16	9	14	15	15	2	3	1	1
CANANEA TO NOGALES																						59 N.MI.			
55,000	-56.5	-67	-11	-8	-7	-66	-9	-7	-6	-70	-14	-12	-11	-71	-15	-12	-11	-69	-12	-9	-8	3	3	3	3
40,000	-56.5	-56	0	4	6	-58	-1	1	3	-54	3	4	4	-55	1	3	4	-54	1	3	3	5	4	2	3
30,000	-44.5	-43	1	3	4	-42	3	4	5	-33	12	13	14	-37	7	9	10	-39	6	8	10	3	2	2	3
20,000	-21.2	-16	5	8	10	-14	7	9	11	-6	15	16	17	-10	12	14	15	-11	10	12	13	5	3	1	3
10,000	-4.6	0	5	8	10	5	10	13	14	13	18	19	20	7	12	14	15	7	11	14	15	5	4	2	3
CANTON IS. TO HONOLULU																						1657 N.MI.			
55,000	-56.5	-78	-22	-20	-19	-77	-21	-19	-18	-77	-20	-18	-17	-76	-20	-18	-17	-77	-21	-19	-18	3	3	3	3
40,000	-56.5	-55	3	5	6	-54	2	4	5	-54	2	3	4	-54	3	4	4	-54	2	4	5	3	3	2	2
30,000	-44.5	-33	11	13	14	-33	11	13	13	-33	12	13	14	-32	12	13	14	-33	12	13	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-7	14	15	16	-6	15	17	17	-6	15	17	17	-6	15	16	17	2	2	2	2
10,000	-4.6	9	14	15	15	9	13	15	15	9	14	15	15	10	15	16	16	9	14	15	16	2	2	1	2
CANTON IS. TO HANOI																						1102 N.MI.			
55,000	-56.5	-81	-24	-23	-23	-80	-23	-21	-20	-76	-20	-18	-17	-77	-21	-19	-18	-79	-22	-20	-18	2	3	3	3
40,000	-56.5	-54	3	4	5	-53	4	5	5	-55	2	3	4	-54	2	3	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-31	13	15	15	-32	13	14	15	-33	12	13	14	-32	12	14	15	-32	12	14	15	2	2	2	2
20,000	-21.2	-4	17	18	18	-6	15	16	17	-7	14	15	16	-6	15	16	17	-6	15	17	17	1	1	2	2
10,000	-4.6	10	15	16	16	10	15	16	16	8	13	14	15	9	14	15	15	10	14	15	16	1	1	2	2
CAPETOWN TO DURBAN																						472 N.MI.			
55,000	-56.5	-66	-8	-5	-4	-66	-8	-5	-4	-58	-1	1	1	-62	-5	-2	-1	-62	-4	-2	-0	4	4	4	4
40,000	-56.5	-56	3	6	7	-55	1	4	5	-52	4	7	8	-55	4	6	8	-56	3	6	7	4	4	4	4
30,000	-44.5	-37	8	10	11	-39	6	8	9	-42	2	5	6	-39	6	8	9	-39	5	8	10	3	3	4	4
20,000	-21.2	-10	11	13	14	-12	9	11	12	-17	4	6	7	-13	8	10	12	-13	8	10	12	3	3	3	3
10,000	-4.6	7	12	14	15	5	9	11	12	-0	4	6	7	4	9	11	12	4	8	11	13	3	3	3	4
CAPETOWN TO ENTEBBE																						2105 N.MI.			
55,000	-56.5	-76	-17	-15	-13	-73	-16	-14	-13	-68	-11	-9	-8	-71	-14	-12	-11	-71	-15	-12	-10	4	4	3	3
40,000	-56.5	-52	4	6	7	-53	4	6	7	-52	5	7	8	-52	4	6	7	-52	4	6	7	3	3	3	3
30,000	-44.5	-32	13	14	15	-33	11	13	14	-35	9	11	12	-34	11	13	14	-33	11	13	14	2	3	3	3
20,000	-21.2	-4	15	16	17	-7	14	15	16	-9	12	14	15	-8	13	15	15	-8	14	15	16	2	2	2	2
10,000	-4.6	10	14	15	16	8	13	14	15	4	9	11	11	8	13	15	15	8	12	14	15	2	2	2	2
CAPETOWN TO JOHANNESBURG																						686 N.MI.			
55,000	-56.5	-66	-10	-7	-6	-66	-9	-7	-5	-59	-3	-0	1	-65	-7	-4	-2	-64	-7	-4	-2	4	4	4	4
40,000	-56.5	-55	3	6	8	-55	2	4	6	-52	5	7	8	-55	4	6	8	-55	3	6	8	4	4	4	4
30,000	-44.5	-36	9	11	12	-38	7	9	10	-41	4	6	8	-38	7	9	10	-38	6	9	11	3	3	4	3
20,000	-21.2	-9	12	14	15	-11	10	12	13	-16	5	8	9	-12	9	11	13	-12	9	12	13	2	3	3	3
10,000	-4.6	8	13	15	16	6	10	12	13	0	5	7	8	5	10	12	13	5	9	12	13	3	3	3	3
CAPETOWN TO KIMBERLEY																						442 N.MI.			
55,000	-56.5	-65	-9	-6	-5	-65	-8	-6	-4	-58	-2	1	2	-62	-6	-3	-1	-63	-6	-3	-1	4	4	4	4
40,000	-56.5	-55	3	6	8	-55	1	4	5	-52	4	7	8	-55	3	6	8	-55	3	6	7	4	4	4	4
30,000	-44.5	-37	8	10	11	-38	6	8	10	-42	2	5	7	-39	6	8	10	-39	6	8	10	3	3	4	4
20,000	-21.2	-10	12	13	14	-12	9	11	12	-17	4	7	8	-13	9	11	12	-13	8	11	12	3	3	3	3
10,000	-4.6	8	12	14	15	5	10	12	13	-0	4	6	7	4	9	11	13	4	9	11	13	3	3	3	4
CAPETOWN TO LEOPOLDVILLE																						1784 N.MI.			
55,000	-56.5	-73	-17	-14	-13	[illegible]	-16	-13	-12	-67	-10	-8	-7	-69	-13	-11	-9	-70	-14	-11	-9	4	4	4	3
40,000	-56.5	-55	4	6	7	-55	3	6	7	-52	5	7	8	-55	4	6	7	-52	4	6	7	3	3	3	3
30,000	-44.5	-33	12	14	14	-34	11	13	13	-36	9	11	12	-34	10	12	13	-34	10	12	13	2	3	3	3
20,000	-21.2	-6	15	16	17	-8	14	15	16	-10	11	13	14	-8	13	14	15	-8	13	15	16	2	2	3	2
10,000	-4.6	9	14	15	16	8	12	14	15	3	8	10	11	8	13	15	15	7	12	14	15	2	2	3	2
CAPETOWN TO PORT ELIZABETH																						349 N.MI.			
55,000	-56.5	-65	-6	-4	-2	-63	-6	-4	-2	-57	-0	3	4	-60	-3	-0	1	-60	-4	-0	2	4	4	4	4
40,000	-56.5	-54	3	6	7	-56	1	3	5	-55	4	7	8	-55	3	6	8	-56	3	6	7	5	4	4	4
30,000	-44.5	-38	6	9	10	-40	5	7	9	-44	0	3	5	-40	5	7	9	-40	4	7	8	4	3	4	4
20,000	-21.2	-12	10	12	13	-13	8	10	11	-19	2	5	6	-14	7	9	10	-15	7	9	11	3	3	4	4
10,000	-4.6	5	10	12	13	3	8	10	11	-1	3	5	7	3	7	10	11	2	7	10	11	3	3	3	4
CAPETOWN TO WINDHOEK																						686 N.MI.			
55,000	-56.5	-68	-12	-9	-8	-67	-11	-8	-7	-61	-4	-2	-0	-64	-8	-5	-4	-65	-9	-5	-3	4	4	4	4
40,000	-56.5	-53	4	6	8	-55	2	4	6	-52	5	7	8	-55	4	6	7	-55	3	6	8	4	4	4	4
30,000	-44.5	-35	9	11	13	-37	8	10	11	-40	5	7	9	-37	7	10	11	-37	7	10	11	3	3	4	3
20,000	-21.2	-8	13	15	15	-11	10	12	13	-15	6	8	9	-11	10	12	13	-11	10	12	13	2	3	3	3
10,000	-4.6	9	13	15	16	6	11	13	14	0	5	7	8	6	10	13	14	5	10	12	14	3	3	3	3
CARACAS TO CUMANA																						165 N.MI.			
55,000	-56.5	-78	-21	-20	-19	-78	-21	-20	-19	-73	-17	-15	-14	-77	-21	-19	-18	-77	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-52	4	6	7	-55	1	3	4	-54	3	4	4	-54	3	5	5	2	2	2	2
30,000	-44.5	-33	11	13	13	-31	14	15	15	-33	12	13	13	-31	13	14	15	-32	12	14	15	2	2	2	2
20,000	-21.2	-6	15	16	17	-5	16	17	18	-7	14	15	16	-6	16	17	17	-6	15	17	17	2	2	1	1
10,000	-4.6	9	13	13	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	16	2	2	1	1

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50*	050	075	085	APRIL 50	050	075	085	JULY 50	050	075	085	OCTOBER 50	050	075	085	ANNUAL 50	050	075	085	STANDARD DEVIATION JAN	APR	JUL	OCT
CARACAS TO CURACAO																									150 N.MI.
55,000	-56.5	-78	-21	-20	-19	-78	-21	-19	-19	-73	-17	-15	-14	-77	-21	-19	-18	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-52	4	6	6	-55	1	3	3	-54	3	4	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-33	11	12	13	-31	13	15	15	-33	12	13	13	-31	13	14	15	-32	12	14	14	2	2	2	1
20,000	-21.2	-6	15	16	17	-5	16	17	18	-7	14	15	16	-6	16	17	17	-6	15	17	17	2	2	1	1
10,000	- 4.6	9	13	14	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	15	2	2	1	1
CARACAS TO DAKAR																									2903 N.MI.
55,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-18	-74	-17	-16	-15	-77	-21	-19	-18	-76	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	5	6	-54	2	5	6	-55	2	3	4	-53	3	4	5	-54	3	4	5	3	3	2	2
30,000	-44.5	-34	10	12	12	-32	12	13	14	-33	11	12	13	-32	13	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-8	13	14	15	-7	14	16	16	-7	15	15	16	-6	16	16	17	-7	14	16	16	2	2	1	1
10,000	- 4.6	8	13	14	14	8	13	14	15	9	14	15	15	9	14	15	15	9	13	14	15	2	2	1	1
CARACAS TO HAVANA																									1155 N.MI.
55,000	-56.5	-77	-20	-18	-18	-76	-20	-18	-17	-72	-16	-15	-14	-77	-21	-19	-18	-76	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	2	4	5	-53	3	4	5	-56	1	2	2	-54	3	4	4	-54	2	4	4	2	2	2	2
30,000	-44.5	-35	10	11	12	-33	11	13	13	-33	11	12	13	-32	13	14	14	-33	11	13	13	2	2	1	2
20,000	-21.2	-7	14	15	16	-6	15	16	17	-7	14	15	16	-6	15	16	17	-7	15	16	16	2	2	1	1
10,000	- 4.6	8	12	14	14	8	13	14	15	9	14	14	15	9	14	15	15	9	13	14	15	2	2	1	1
CARACAS TO HOUSTON																									1950 N.MI.
55,000	-56.5	-75	-19	-17	-16	-74	-17	-16	-15	-72	-16	-14	-14	-76	-20	-18	-17	-74	-18	-16	-15	3	3	2	3
40,000	-56.5	-55	1	3	4	-54	2	4	5	-56	1	2	2	-54	2	4	4	-55	2	3	4	3	2	2	2
30,000	-44.5	-36	8	10	10	-35	10	11	12	-33	12	13	13	-33	12	13	14	-34	10	12	13	2	2	1	2
20,000	-21.2	-9	12	14	15	-8	13	55	16	-7	15	15	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	- 4.6	7	11	13	14	8	12	14	15	9	14	15	15	9	14	15	15	8	13	14	14	2	2	1	2
CARACAS TO KINGSTON																									719 N.MI.
55,000	-56.5	-77	-21	-19	-16	-77	-21	-19	-18	-73	-16	-15	-14	-77	-21	-19	-18	-76	-20	-18	-16	3	3	2	3
40,000	-56.5	-54	3	4	5	-53	4	5	6	-56	1	2	3	-54	3	4	4	-54	2	4	5	3	2	2	2
30,000	-44.5	-34	11	12	13	-32	12	14	14	-33	11	12	13	-32	13	14	14	-33	12	13	14	2	2	2	1
20,000	-21.2	-7	14	16	16	-6	15	17	17	-7	14	15	16	-6	16	16	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	13	15	15	9	14	15	15	9	14	15	15	9	13	15	15	2	2	1	1
CARACAS TO LAS PIEDRAS																									201 N.MI.
55,000	-56.5	-78	-21	-20	-19	-78	-21	-19	-19	-73	-17	-15	-14	-77	-21	-19	-18	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-52	4	6	6	-55	1	3	3	-54	3	4	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-33	11	13	13	-31	13	15	15	-33	12	13	13	-31	13	14	[illegible]	-32	12	14	15	2	2	2	1
20,000	-23.2	-6	15	16	17	-5	16	17	18	-7	14	15	16	-6	16	17	17	-6	15	17	17	2	2	1	1
10,000	- 4.6	9	13	14	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	15	2	2	1	1
CARACAS TO LA PAZ																									1629 N.MI.
55,000	-56.5	-78	-21	-19	-16	-77	-20	-19	-18	-72	-16	-14	-13	-75	-19	-17	-16	-76	-19	-16	-15	3	3	3	3
40,000	-56.5	-53	3	5	6	-52	5	7	8	-54	3	4	5	-54	3	4	5	-53	3	6	7	3	3	2	2
30,000	-44.5	-32	13	14	14	-30	14	16	16	-32	12	14	15	-31	14	15	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	17	18	18	-4	17	18	19	-8	13	14	15	-6	15	16	17	-6	15	17	18	2	2	2	2
10,000	- 4.6	10	14	16	16	10	14	56	16	8	13	14	15	10	14	16	16	9	14	15	16	2	2	2	2
CARACAS TO LIMA																									1688 N.MI.
55,000	-56.5	-78	-21	-20	-19	-77	-21	-19	-18	-73	-17	-15	-13	-76	-20	-18	-17	-76	-20	-17	-16	3	3	3	3
40,000	-56.5	-54	3	4	6	-52	5	7	8	-54	2	4	5	-54	3	4	4	-53	3	5	6	3	3	2	2
30,000	-44.5	-32	12	14	16	-30	14	16	16	-32	12	14	15	-31	14	15	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	17	18	19	-4	17	18	19	-8	14	15	15	-6	16	17	17	-6	16	17	18	2	2	2	1
10,000	- 4.6	10	14	16	16	10	14	16	16	9	13	15	15	10	15	16	16	10	14	15	16	2	2	2	2
CARACAS TO LISBON																									3507 N.MI.
55,000	-56.5	-69	-13	-11	-9	-69	-12	-10	-9	-68	-12	-10	-9	-71	-14	-12	-11	-69	-13	-11	-9	3	3	3	3
40,000	-56.5	-56	0	3	4	-57	-0	2	4	-54	2	4	5	-55	1	3	4	-56	1	3	4	4	4	2	3
30,000	-44.5	-40	5	6	7	-18	7	8	9	-15	9	11	12	-35	9	11	12	-37	7	9	10	3	2	2	2
20,000	-21.2	-33	8	10	11	-11	10	12	11	-8	11	14	15	-9	13	14	15	-10	11	13	14	3	3	2	2
10,000	- 4.6	4	8	10	11	4	9	10	11	8	11	14	14	7	11	13	13	6	10	12	13	3	3	2	2
CARACAS TO LONDON																									4050 N.MI.
55,000	-56.5	-66	-10	-7	-6	-64	-8	-6	-4	-63	-6	-4	-3	-67	-10	-8	-7	-65	-9	-6	-5	4	3	3	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-55	2	4	5	-55	1	3	5	-56	1	3	5	5	5	3	3
30,000	-44.5	-62	2	4	5	-61	4	6	7	-37	8	10	11	-38	7	9	10	-39	5	8	9	3	3	3	3
20,000	-21.2	-16	5	8	9	-15	7	9	10	-10	12	13	14	-11	10	12	13	-13	8	11	12	4	3	2	3
10,000	- 4.6	-0	4	7	8	1	6	8	9	6	10	12	11	4	9	10	11	3	7	9	11	4	3	2	3
CARACAS TO MADRID																									3779 N.MI.
51,000	-56.5	-69	-12	-10	-8	-68	-11	-9	-8	-67	-11	-9	-8	-70	-13	-11	-10	-68	-12	-10	-9	4	3	3	3
40,000	-56.5	-57	-0	3	4	-57	-0	2	4	-54	2	4	5	-55	1	3	4	-56	1	3	4	4	4	2	3
30,000	-44.5	-41	4	6	7	-39	6	8	8	-15	9	11	12	-36	9	11	11	-38	7	9	10	3	2	2	3
20,000	-21.2	-14	8	10	11	-12	9	11	12	-8	13	14	15	-9	12	14	14	-11	10	12	13	3	3	2	2
10,000	- 4.6	3	7	9	11	3	8	10	11	8	11	14	14	6	11	12	13	5	10	12	13	3	3	2	2
CARACAS TO MANAOS																									926 N.MI.
55,000	-56.5	-79	-22	-20	-19	-78	-21	-19	-18	-73	-16	-15	-13	-77	-20	-19	-18	-76	-20	-17	-16	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-55	2	3	4	-54	3	4	5	-53	3	5	6	2	3	2	2
30,000	-44.5	-32	12	13	14	-30	15	16	17	-32	12	14	14	-30	14	15	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	17	18	19	-4	17	18	19	-7	14	15	15	-6	16	17	17	-5	16	17	18	2	2	1	1
10,000	- 4.6	10	14	16	16	10	15	16	17	9	14	15	15	10	15	16	17	10	14	16	16	2	2	2	2
CARACAS TO MARACAIBO																									275 N.MI.
55,000	-56.5	-78	-21	-20	-19	-78	-21	-19	-18	-73	-17	-15	-14	-77	-21	-19	-18	-77	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-52	4	6	7	-55	1	3	3	-54	3	4	4	-54	3	5	5	2	2	2	2
30,000	-44.5	-33	11	13	13	-31	14	15	15	-33	12	13	13	-31	13	14	15	-32	12	14	15	2	2	2	1
20,000	-21.2	-6	15	16	17	-5	16	17	18	-7	14	15	16	-6	16	17	17	-6	15	17	17	2	2	1	1
10,000	- 4.6	9	13	15	15	10	14	15	16	9	14	15	15	10	14	15	16	9	14	15	16	2	2	1	1
CARACAS TO MEXICO CITY																									1930 N.MI.
55,000	-56.5	-77	-21	-19	-18	-76	-20	-18	-17	-73	-17	-15	-15	-78	-21	-20	-18	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	2	4	5	-53	3	4	5	-56	1	2	3	-54	3	4	4	-54	2	4	4	2	2	2	2
30,000	-44.5	-15	10	11	12	-33	11	13	13	-33	12	13	13	-32	13	14	14	-33	11	13	13	2	2	1	2
20,000	-21.2	-7	14	15	16	-6	15	17	17	-7	15	15	16	-6	15	16	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	15	2	2	1	1

*0--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
CARACAS TO MIAMI																									1183 N.MI.
55,000	-56.5	-76	-20	-18	-17	-75	-19	-17	-16	-72	-16	-14	-14	-77	-20	-18	-17	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	2	4	5	-54	3	4	5	-56	1	2	2	-54	2	4	4	-55	2	3	4	3	2	2	2
30,000	-44.5	-35	9	11	11	-34	11	12	13	-33	11	12	13	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	13	15	15	-7	14	16	16	-7	14	15	16	-6	15	16	17	-7	14	16	16	2	2	1	1
10,000	- 4.6	7	12	13	14	8	12	14	15	9	13	14	15	9	14	15	15	8	13	14	15	2	2	1	1
CARACAS TO MONTEGO BAY																									791 N.MI.
55,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-18	-73	-16	-15	-14	-77	-21	-19	-18	-76	-20	-18	-16	3	3	2	3
40,000	-56.5	-54	3	4	5	-55	4	5	6	-56	1	2	3	-54	3	4	4	-54	2	4	5	3	2	2	2
30,000	-44.5	-34	10	12	12	-32	12	13	14	-33	11	12	13	-32	13	14	14	-33	12	13	14	2	2	1	1
20,000	-21.2	-7	14	16	16	-6	15	17	17	-7	14	15	16	-6	16	16	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	13	15	15	9	14	15	15	9	14	15	15	9	13	14	15	2	2	1	1
CARACAS TO NATAL																									2140 N.MI.
55,000	-56.5	-78	-22	-20	-19	-78	-21	-20	-19	-72	-16	-14	-13	-77	-20	-19	-18	-76	-20	-17	-16	3	3	3	3
40,000	-56.5	-54	2	4	5	-52	4	6	8	-54	2	4	5	-54	3	4	5	-53	3	5	7	3	3	2	2
30,000	-44.5	-32	12	13	14	-30	15	16	17	-32	13	14	14	-30	14	16	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	17	18	18	-7	14	15	16	-6	16	17	17	-6	16	17	18	2	2	1	2
10,000	- 4.6	10	14	16	16	10	14	16	16	9	13	15	15	10	15	16	17	10	14	16	16	2	2	2	2
CARACAS TO NEW ORLEANS																									1728 N.MI.
55,000	-56.5	-75	-19	-17	-16	-74	-18	-16	-15	-72	-15	-14	-13	-76	-20	-18	-17	-74	-18	-16	-15	3	3	2	3
40,000	-56.5	-55	1	3	4	-54	2	4	5	-56	0	2	2	-54	2	4	4	-55	2	3	4	3	2	2	2
30,000	-44.5	-36	8	10	10	-35	10	11	12	-33	11	12	13	-33	12	13	14	-34	10	12	13	2	2	1	2
20,000	-21.2	-9	13	14	15	-8	13	15	16	-7	15	15	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	- 4.6	7	11	13	13	7	12	14	14	9	14	14	15	9	14	15	15	8	13	14	14	2	2	1	2
CARACAS TO NEW YORK																									1857 N.MI.
55,000	-56.5	-72	-15	-13	-12	-70	-14	-12	-11	-69	-13	-11	-10	-73	-16	-14	-13	-71	-15	-13	-11	3	3	2	3
40,000	-56.5	-56	1	3	4	-56	1	3	4	-56	1	2	3	-55	2	4	4	-56	1	3	4	3	3	2	2
30,000	-44.5	-39	4	8	9	-37	7	9	10	-34	11	12	12	-34	10	12	12	-34	8	10	11	3	2	2	2
20,000	-21.2	-12	10	12	13	-10	11	12	13	-7	14	15	16	-8	13	15	15	-9	12	13	14	3	2	2	2
10,000	- 4.6	3	8	10	11	4	9	11	12	8	13	14	14	7	12	13	14	4	10	12	13	3	3	1	2
CARACAS TO PANAMA																									739 N.MI.
55,000	-56.5	-78	-21	-20	-19	-77	-21	-19	-18	-73	-17	-15	-14	-78	-21	-19	-18	-77	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-52	5	6	7	-55	1	3	3	-54	3	4	4	-54	3	5	6	2	2	2	2
30,000	-44.5	-33	11	13	13	-31	14	15	15	-33	12	13	13	-31	13	14	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-6	15	17	17	-5	14	18	18	-7	14	15	16	-4	16	17	17	-6	15	17	17	2	2	1	1
10,000	- 4.6	9	13	15	15	9	14	15	16	9	14	15	15	10	15	16	14	9	14	15	16	2	2	2	1
CARACAS TO PARIS																									4113 N.MI.
55,000	-56.5	-66	-10	-7	-4	-65	-8	-4	-5	-64	-7	-5	-4	-67	-11	-8	-7	-65	-9	-7	-5	4	5	3	3
40,000	-56.5	-57	-0	3	5	-57	-0	3	4	-55	2	4	5	-56	1	3	4	-54	1	3	4	5	4	3	3
30,000	-44.5	-42	2	4	5	-40	4	6	7	-36	8	10	11	-37	7	9	10	-39	5	8	9	3	3	3	3
20,000	-21.2	-16	5	8	9	-14	7	9	10	-9	12	13	14	-11	10	12	13	-13	9	11	12	4	3	2	3
10,000	- 4.6	0	5	7	9	1	4	8	9	4	11	12	13	4	9	11	12	3	0	10	11	4	3	2	3
CARACAS TO POINTE A PITRE																									465 N.MI.
55,000	-56.5	-77	-21	-19	-18	-78	-21	-20	-19	-73	-16	-15	-14	-77	-21	-19	-18	-74	-20	-18	-16	3	3	2	3
40,000	-56.5	-54	3	5	4	-53	3	5	4	-55	1	2	3	-54	3	4	4	-54	2	4	5	3	2	2	2
30,000	-44.5	-34	11	12	13	-32	13	14	14	-33	11	12	13	-32	13	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-7	14	14	14	-6	15	16	17	-7	14	15	16	-6	16	17	17	-4	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	14	15	15	9	14	15	15	9	14	15	15	9	13	15	15	2	2	1	1
CARACAS TO PORT OF SPAIN																									352 N.MI.
55,000	-56.5	-78	-22	-20	-19	-78	-21	-20	-19	-73	-17	-15	-14	-77	-21	-19	-18	-77	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-52	4	6	4	-55	1	3	4	-54	3	4	4	-54	3	5	4	2	2	2	2
30,000	-44.5	-33	11	13	13	-31	14	15	15	-33	12	13	13	-31	13	14	15	-32	12	14	15	2	2	2	2
20,000	-21.2	-4	15	14	17	-5	16	17	18	-7	14	15	16	-6	14	17	17	-6	15	17	17	2	2	1	1
10,000	- 4.6	9	13	14	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	16	2	2	1	1
CARACAS TO PUERTO CABELLO																									64 N.MI.
55,000	-56.5	-78	-21	-20	-19	-78	-21	-20	-19	-73	-17	-15	-14	-77	-21	-19	-18	-77	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-52	4	6	7	-55	1	3	3	-54	3	4	4	-54	3	5	5	2	2	2	2
30,000	-44.5	-31	11	13	13	-31	14	15	15	-33	12	13	13	-31	13	14	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-4	15	14	17	-5	16	17	18	-7	14	15	16	-6	16	17	17	-6	15	17	17	2	2	1	1
10,000	- 4.6	9	13	15	15	10	14	15	16	9	14	15	15	10	14	15	16	9	14	15	16	2	2	1	1
CARACAS TO QUITO																									942 N.MI.
55,000	-56.5	-78	-22	-20	-19	-78	-21	-19	-18	-74	-17	-15	-14	-78	-21	-19	-18	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	6	7	-55	2	3	4	-54	2	4	4	-54	3	5	6	2	2	2	2
30,000	-44.5	-32	12	13	14	-30	14	16	16	-32	12	13	14	-31	14	15	15	-31	13	15	15	2	2	2	2
20,000	-21.2	-5	14	18	18	-4	17	10	19	-7	14	15	16	-6	16	17	17	-5	16	17	18	2	2	1	1
10,000	- 4.6	9	14	15	16	10	15	16	16	9	14	15	16	10	15	16	16	10	14	15	16	2	2	2	1
CARACAS TO RECIFE																									2221 N.MI.
55,000	-56.5	-78	-22	-20	-18	-78	-21	-20	-19	-72	-16	-14	-13	-76	-20	-10	-17	-76	-20	-17	-15	3	3	3	3
40,000	-56.5	-54	2	4	5	-52	4	7	8	-54	3	4	5	-54	3	4	5	-53	3	5	7	3	3	2	2
30,000	-44.5	-32	12	13	14	-30	15	16	17	-32	13	14	15	-30	14	16	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	16	18	18	-4	17	18	19	-7	14	15	16	-6	16	17	17	-5	16	17	10	2	2	2	2
10,000	- 4.6	10	14	16	16	10	14	16	16	9	13	15	15	10	15	16	17	10	14	16	16	2	2	2	2
CARACAS TO RIO DE JANEIRO																									2443 N.MI.
55,000	-56.5	-77	-21	-19	-17	-76	-20	-18	-17	-71	-15	-12	-11	-74	-17	-15	-14	-75	-18	-15	-14	3	3	3	3
40,000	-56.5	-53	3	5	6	-52	5	7	8	-53	3	5	6	-54	3	4	5	-53	4	6	7	3	3	3	2
30,000	-44.5	-32	12	14	15	-31	14	15	16	-32	12	14	14	-31	14	15	16	-32	13	15	16	2	2	2	2
20,000	-21.2	-5	16	18	19	-5	16	17	18	-8	13	14	15	-6	15	16	17	-6	15	17	18	2	2	2	2
10,000	- 4.6	10	14	16	14	10	14	16	17	8	12	13	14	10	14	16	16	9	14	15	16	2	2	2	2
CARACAS TO SAN JUAN																									472 N.MI.
55,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-18	-73	-16	-15	-14	-77	-21	-19	-18	-76	-20	-17	-16	3	3	2	3
40,000	-56.5	-54	3	5	5	-53	3	5	5	-56	1	2	3	-54	3	4	4	-54	2	4	5	3	2	2	2
30,000	-44.5	-34	10	12	13	-32	12	13	14	-33	11	12	13	-32	13	14	14	-33	12	13	14	2	2	1	1
20,000	-21.2	-7	14	15	16	-6	15	16	17	-7	14	15	16	-6	16	16	17	-6	15	16	16	2	2	1	1
10,000	- 4.6	8	13	14	15	9	13	15	15	9	14	15	15	9	14	15	15	9	13	14	15	2	2	1	1

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*050	075	085	APRIL 50	050	075	085	JULY 50	050	075	085	OCTOBER 50	050	075	085	ANNUAL 50	050	075	085	STANDARD DEVIATION JAN	APR	JUL	OCT
CARACAS TO SANTA MARIA																									2753 N.MI.
55,000	-56.5	-71	-15	-12	-11	-70	-14	-12	-11	-69	-13	-11	-10	-72	-16	-14	-13	-71	-14	-12	-11	3	3	3	3
40,000	-56.5	-56	1	3	4	-56	0	2	4	-55	2	3	4	-55	2	3	4	-56	1	3	4	4	4	2	2
30,000	-44.5	-39	6	7	8	-37	8	9	10	-35	10	11	12	-34	10	12	13	-36	8	10	11	3	2	2	2
20,000	-21.2	-12	10	11	12	-10	11	12	13	-8	33	15	15	-8	13	15	15	-9	12	13	14	3	3	2	2
10,000	- 4.6	5	9	11	12	5	9	11	12	8	12	14	14	7	12	13	14	6	11	12	13	3	2	2	2
CARACAS TO SANTIAGO																									2656 N.MI.
55,000	-56.5	-75	-19	-16	-15	-74	-18	-16	-15	-69	-13	-10	-9	-71	-15	-13	-12	-73	-16	-13	-11	3	3	4	3
40,000	-56.5	-53	3	5	7	-53	4	6	7	-53	3	5	6	-54	3	4	5	-53	3	6	7	3	3	3	3
30,000	-44.5	-33	11	13	14	-32	12	14	15	-35	10	12	12	-33	12	14	15	-33	11	13	14	2	3	3	2
20,000	-23.2	-6	15	17	18	-6	15	16	17	-11	10	12	12	-7	14	15	16	-8	14	15	16	2	2	2	2
30,000	- 4.6	9	14	15	16	8	13	14	15	6	10	12	13	8	13	14	15	8	12	14	15	2	2	2	2
CARACAS TO SAO PAULO																									2375 N.MI.
55,000	-56.5	-77	-21	-39	-17	-76	-20	-18	-17	-71	-34	-12	-11	-74	-17	-15	-14	-75	-18	-15	-14	3	3	3	3
40,000	-56.5	-53	3	5	6	-52	5	7	8	-53	3	5	6	-54	3	4	5	-53	4	6	7	3	3	3	2
30,000	-44.5	-32	12	14	15	-31	14	35	16	-33	12	13	14	-31	13	15	16	-32	13	15	16	2	2	2	2
20,000	-21.2	-5	16	18	19	-5	16	17	18	-9	33	14	15	-6	15	16	17	-6	15	17	18	2	2	2	2
10,000	- 4.6	10	14	16	16	10	14	16	16	7	12	13	14	10	14	16	16	9	14	15	16	2	2	2	2
CARACAS TO TORONTO																									2090 N.MI.
55,000	-56.5	-71	-14	-12	-11	-69	-13	-11	-9	-68	-12	-10	-9	-72	-15	-13	-12	-70	-14	-12	-10	3	3	2	3
40,000	-56.5	-56	3	3	4	-56	1	3	4	-56	3	2	3	-55	2	4	5	-55	1	3	4	4	3	2	3
30,000	-44.5	-40	5	7	8	-38	6	8	9	-34	10	12	12	-35	9	11	12	-37	8	10	11	3	2	2	2
20,000	-21.2	-13	8	10	12	-11	10	12	13	-8	14	35	15	-9	13	14	15	-10	11	13	14	3	3	2	2
10,000	- 4.6	2	6	9	10	3	6	10	11	8	12	33	14	6	11	13	14	5	9	11	12	3	3	2	2
CAMUPANO TO PORLAMAR																									45 N.MI.
55,000	-56.5	-78	-22	-20	-19	-78	-21	-20	-19	-73	-17	-15	-14	-77	-21	-19	-18	-77	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-51	4	6	6	-55	1	3	4	-54	3	4	4	-54	3	5	5	3	2	2	2
30,000	-44.5	-33	11	12	13	-31	13	15	15	-33	12	13	13	-31	13	14	15	-32	12	14	15	2	2	2	2
20,000	-21.2	-6	15	16	17	-5	16	37	18	-7	14	35	16	-6	16	37	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	9	13	14	15	9	14	15	16	9	14	15	15	30	14	35	16	9	14	35	16	2	2	1	2
CASABLANCA TO CONAKRY																									1476 N.MI.
55,000	-56.5	-72	-15	-13	-12	-71	-14	-32	-11	-73	-16	-14	-13	-73	-17	-15	-14	-72	-15	-13	-12	3	3	3	3
40,000	-56.5	-55	1	4	5	-54	2	5	6	-53	4	5	6	-54	3	4	5	-54	3	4	5	4	4	2	2
30,000	-44.5	-40	5	6	7	-35	9	10	11	-33	13	13	13	-35	10	11	12	-36	9	11	12	2	2	2	2
20,000	-23.2	-11	9	10	11	-10	11	12	13	-7	14	16	16	-8	13	15	15	-9	12	14	34	2	2	2	2
10,000	- 4.6	5	9	11	11	6	11	12	13	12	17	18	19	8	12	14	14	8	12	14	36	2	2	2	2
CASABLANCA TO COPENHAGEN																									1570 N.MI.
55,000	-56.5	-59	-2	1	3	-56	0	3	5	-56	1	3	4	-60	-3	-3	0	-58	-1	2	3	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-0	4	6	-52	4	7	9	-56	0	3	5	-56	3	4	6	6	6	4	4
30,000	-44.5	-49	-4	-2	-0	-46	-2	1	2	-39	6	8	9	-42	2	5	6	-44	1	4	6	4	4	3	4
20,000	-21.2	-24	-2	1	3	-20	1	4	5	-12	9	11	12	-16	5	8	9	-18	3	6	8	5	4	3	4
10,000	- 4.6	-7	-2	1	3	-3	1	4	5	5	10	12	13	-1	4	7	8	-2	3	6	8	5	4	3	4
CASABLANCA TO DAKAR																									1249 N.MI.
51,000	-56.5	-70	-14	-11	-10	-69	-13	-11	-9	-72	-15	-13	-12	-72	-15	-13	-12	-73	-34	-32	-11	3	3	3	3
40,000	-56.5	-56	1	3	5	-55	2	4	6	-52	4	5	6	-54	2	4	5	-54	2	4	5	4	4	2	2
10,000	-44.5	-41	4	5	6	-37	8	9	10	-34	13	12	13	-35	9	11	12	-37	8	10	13	2	2	2	2
20,000	-21.2	-13	8	9	10	-11	10	12	32	-7	14	15	16	-8	13	34	15	-10	11	33	14	2	2	2	2
10,000	- 4.6	4	8	10	11	5	10	11	12	12	16	18	18	7	12	13	14	7	12	14	15	2	2	2	2
CASABLANCA TO FRANKFURT																									1221 N.MI.
55,000	-56.5	-59	-2	1	3	-57	-1	2	4	-58	-1	1	2	-61	-4	-2	-1	-59	-2	3	3	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-53	4	6	8	-56	0	3	4	-56	0	4	6	6	5	4	4
30,000	-44.5	-48	-3	-1	0	-45	-1	2	3	-38	7	9	10	-42	1	6	7	-43	3	5	6	4	4	3	4
20,000	-21.2	-22	-1	2	4	-19	2	5	6	-13	10	12	13	-15	6	9	10	-17	4	7	9	5	4	3	4
10,000	- 4.6	-5	-1	2	4	-2	2	5	6	6	11	13	14	1	5	8	9	-0	4	8	10	5	4	3	4
CASABLANCA TO JIDDA																									2573 N.MI.
55,000	-56.5	-67	-10	-8	-7	-65	-8	-6	-5	-70	-14	-12	-11	-69	-12	-30	-9	-68	-11	-9	-7	3	3	3	3
40,000	-56.5	-55	2	4	6	-55	2	4	6	-49	7	9	10	-55	2	3	4	-53	3	6	7	4	4	2	3
30,000	-44.5	-44	1	1	4	-39	5	7	8	-30	14	16	17	-37	7	9	10	-38	7	10	12	3	3	3	3
20,000	-21.2	-16	5	7	8	-13	8	10	11	-6	16	17	18	-10	11	12	13	-11	10	12	14	3	3	2	2
10,000	- 4.6	0	5	7	8	4	8	10	11	13	18	19	20	6	11	12	11	6	1C	13	15	3	3	2	2
CASABLANCA TO JOHANNESBURG																									4125 N.MI.
55,000	-56.5	-74	-18	-16	-14	-71	-17	-15	-14	-73	-16	-14	-13	-73	-17	-15	-14	-73	-17	-15	-14	3	3	3	3
40,000	-56.5	-54	3	5	6	-52	4	6	8	-52	4	6	6	-53	4	6	6	-53	4	5	6	3	3	2	2
30,000	-44.5	-35	9	11	12	-33	12	13	14	-33	12	13	14	-33	12	13	14	-33	11	13	14	2	2	2	2
20,000	-21.2	-8	13	14	15	-7	14	15	16	-6	15	16	17	-7	14	15	16	-7	14	15	16	2	2	2	2
10,000	- 4.6	8	12	13	14	8	13	14	15	9	14	15	16	9	14	15	16	9	13	15	15	2	2	2	2
CASABLANCA TO KANO																									1565 N.MI.
55,000	-56.5	-71	-14	-12	-11	-69	-13	-11	-10	-73	-16	-15	-14	-72	-16	-14	-13	-71	-15	-13	-11	3	3	3	3
40,000	-56.5	-55	2	4	6	-51	3	6	7	-52	5	6	7	-54	3	4	5	-53	3	5	6	4	4	2	2
30,000	-44.5	-41	4	5	6	-16	9	10	11	-32	12	14	15	-35	10	11	12	-36	9	11	12	2	2	2	2
20,000	-21.2	-13	8	9	10	-11	11	12	13	-6	15	16	17	-8	13	14	15	-10	12	13	14	2	2	2	2
10,000	- 4.6	4	9	10	11	7	11	13	14	14	18	19	20	8	12	14	14	8	13	15	16	2	2	2	2
CASABLANCA TO KHARTOUM																									2625 N.MI.
55,000	-56.5	-67	-13	-11	-10	-68	-11	-9	-8	-72	-16	-14	-13	-71	-15	-13	-12	-70	-14	-11	-10	3	3	3	3
40,000	-56.5	-55	2	4	6	-54	3	5	7	-50	6	8	8	-54	2	4	5	-53	3	5	6	4	4	2	2
30,000	-44.5	-42	3	4	5	-37	8	9	10	-31	14	15	16	-36	9	10	11	-36	8	11	12	2	2	2	2
20,000	-21.2	-14	7	9	10	-12	10	11	12	-6	16	17	18	-9	12	13	14	-10	11	13	14	3	2	2	2
10,000	- 4.6	3	7	9	10	6	10	12	13	13	18	19	20	7	12	13	14	7	12	14	16	3	3	2	2
CASABLANCA TO LEOPOLDVILLE																									2626 N.MI.
55,000	-56.5	-74	-17	-15	-14	-73	-16	-14	-13	-74	-18	-16	-15	-74	-18	-16	-15	-74	-17	-15	-14	3	3	3	3
40,000	-56.5	-54	2	4	5	-53	4	6	7	-53	4	5	6	-53	4	5	6	-53	3	6	7	3	4	2	2
30,000	-44.5	-37	7	8	9	-33	11	13	13	-32	12	14	14	-33	11	13	14	-34	13	12	13	2	2	2	2
20,000	-21.2	-10	11	12	13	-8	13	14	15	-6	16	17	17	-7	14	15	16	-8	13	15	16	2	2	2	1
10,000	- 4.6	6	11	12	13	8	13	14	15	12	16	17	18	9	14	15	15	9	13	15	16	2	2	2	2

*O--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
CASABLANCA TO LISBON																						321 N.MI.			
53,000	-56.5	-61	-5	-2	0	-60	-3	-0	1	-63	-7	-4	-3	-63	-7	-5	-3	-62	-5	-2	-1	5	4	3	3
40,000	-56.5	-58	-1	2	4	-57	-1	3	5	-52	4	6	8	-56	0	3	4	-56	1	4	5	5	5	3	4
30,000	-44.5	-46	-1	1	2	-45	1	3	4	-36	9	11	12	-40	5	7	8	-41	3	6	8	3	3	3	3
20,000	-21.2	-19	2	5	6	-16	5	7	8	-9	12	13	14	-13	9	11	12	-14	7	9	11	4	3	2	3
10,000	- 4.6	-2	3	5	7	1	5	7	9	10	14	16	17	3	8	10	11	3	8	11	12	4	3	2	3
CASABLANCA TO LONDON																						1120 N.MI.			
53,000	-56.5	-59	-3	0	2	-57	-1	2	4	-58	-1	1	3	-61	-4	-2	-0	-59	-2	1	3	5	4	4	4
40,000	-56.5	-58	-2	2	5	-57	-1	1	5	-55	4	7	8	-56	0	3	5	-56	0	4	6	6	6	4	4
30,000	-44.5	-47	-3	-1	1	-45	-1	2	3	-38	7	9	10	-42	3	5	7	-43	1	5	6	4	4	3	4
20,000	-21.2	-22	-1	3	4	-19	2	5	6	-11	10	12	13	-15	6	9	10	-17	4	7	9	5	4	3	4
10,000	- 4.6	-5	-0	3	4	-2	3	5	6	6	11	13	14	1	5	8	9	-0	5	8	9	5	4	3	4
CASABLANCA TO MADRID																						459 N.MI.			
53,000	-56.5	-61	-4	-1	1	-59	-3	0	2	-62	-6	-4	-2	-63	-6	-4	-3	-61	-5	-2	0	5	4	3	3
40,000	-56.5	-58	-1	2	4	-57	-1	3	5	-52	4	6	8	-56	0	3	4	-56	1	4	5	6	5	3	4
30,000	-44.5	-46	-2	1	2	-44	1	3	4	-36	8	10	11	-40	4	7	8	-42	3	6	8	3	3	3	3
20,000	-21.2	-20	2	4	6	-17	4	6	8	-10	12	13	14	-13	8	10	11	-15	6	9	11	4	3	2	3
10,000	- 4.6	-2	2	5	6	0	5	7	8	9	14	16	17	3	7	9	10	2	7	10	12	4	3	3	3
CASABLANCA TO MUNICH																						1254 N.MI.			
53,000	-56.5	-59	-2	1	3	-57	-1	2	3	-59	-2	0	1	-61	-4	-2	-1	-59	-2	1	2	5	4	3	3
40,000	-56.5	-58	-1	2	4	-57	-1	3	5	-53	4	6	8	-56	0	1	4	-56	0	4	6	6	5	4	4
30,000	-44.5	-48	-3	-1	1	-45	-1	2	3	-37	7	9	11	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-22	-1	2	4	-19	2	5	6	-11	10	12	11	-15	6	9	10	-17	5	8	9	5	3	3	3
10,000	- 4.6	-5	-1	2	4	-2	3	5	6	7	12	14	15	1	6	8	9	0	5	8	10	5	4	3	3
CASABLANCA TO NAIROBI																						3271 N.MI.			
53,000	-56.5	-73	-17	-15	-14	-72	-16	-14	-13	-74	-17	-16	-15	-74	-17	-16	-15	-73	-17	-15	-14	3	3	3	3
40,000	-56.5	-54	2	4	5	-53	4	6	7	-52	5	6	7	-53	3	5	6	-51	4	5	6	3	3	2	2
30,000	-44.5	-18	7	8	9	-34	11	12	13	-31	11	15	15	-33	11	11	11	-34	11	12	13	2	2	2	2
20,000	-21.2	-10	11	12	13	-9	13	14	15	-5	16	17	17	-7	14	15	15	-8	13	15	16	2	2	2	1
10,000	- 4.6	6	11	12	13	8	13	14	15	12	17	18	18	9	13	14	15	9	11	15	16	2	2	2	2
CASABLANCA TO NATAL																						2840 N.MI.			
53,000	-56.5	-74	-18	-16	-14	-74	-17	-15	-14	-73	-16	-14	-13	-75	-18	-16	-15	-74	-17	-15	-14	3	1	3	3
40,000	-56.5	-55	2	4	5	-54	2	5	6	-51	3	5	5	-51	3	5	5	-54	3	4	5	3	4	2	2
30,000	-44.5	-17	8	9	10	-14	11	12	13	-35	11	13	11	-11	11	13	14	-14	10	12	13	2	2	2	2
20,000	-21.2	-10	11	13	11	-8	13	14	15	-7	15	16	16	-7	14	15	16	-8	13	15	15	2	2	2	2
10,000	- 4.6	7	11	12	11	7	12	13	14	10	15	16	16	9	13	15	15	8	11	14	15	2	2	2	2
CASABLANCA TO NEW YORK																						3119 N.MI.			
53,000	-56.5	-60	-4	-1	0	-58	-2	1	2	-60	-4	-2	-0	-62	-6	-1	-1	-60	-4	-1	1	4	4	3	4
40,000	-56.5	-58	-1	1	5	-57	-1	3	5	-54	2	5	6	-56	1	4	5	-56	0	3	5	6	5	4	4
30,000	-44.5	-46	-1	1	2	-45	-0	2	1	-17	8	10	11	-40	4	7	8	-42	3	6	7	4	3	3	4
20,000	-21.2	-20	1	4	6	-19	3	5	7	-10	11	13	14	-11	8	10	12	-16	6	9	10	5	4	3	4
10,000	- 4.6	-5	-1	3	5	-3	2	5	6	6	10	12	13	2	6	9	10	-0	4	7	9	5	4	3	4
CASABLANCA TO PARIS																						1029 N.MI.			
53,000	-56.5	-59	-3	0	2	-57	-1	2	1	-59	-2	0	2	-61	-5	-2	-1	-59	-3	1	2	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-51	4	6	8	-55	0	1	4	-56	0	4	6	6	6	4	4
30,000	-44.5	-47	-1	-0	1	-45	-1	2	1	-17	7	9	10	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-22	-0	3	4	-19	1	5	6	-11	10	12	13	-15	7	9	10	-16	5	8	9	5	4	3	3
10,000	- 4.6	-5	-0	3	5	-2	3	5	7	7	11	13	14	1	6	8	9	0	5	8	10	5	4	3	3
CASABLANCA TO ROME																						1079 N.MI.			
53,000	-56.5	-60	-3	0	2	-58	-2	1	2	-62	-5	-3	-2	-62	-6	-3	-2	-60	-4	-1	1	5	4	3	3
40,000	-56.5	-57	-1	3	5	-57	-1	1	5	-52	5	7	9	-56	0	1	4	-56	1	4	6	5	5	3	4
30,000	-44.5	-47	-2	-0	1	-45	-0	2	3	-16	8	10	11	-41	4	6	8	-42	2	6	7	1	3	3	4
20,000	-21.2	-21	0	1	5	-18	4	6	7	-10	11	13	14	-14	7	9	10	-16	6	9	10	4	1	1	3
10,000	- 4.6	-4	1	4	5	-0	4	7	8	9	14	15	16	2	7	9	10	2	6	10	11	4	1	3	3
CASABLANCA TO SANTA MARIA																						880 N.MI.			
53,000	-56.5	-61	-6	-1	-2	-60	-4	-1	0	-64	-7	-5	-4	-64	-8	-5	-4	-61	-6	-3	-1	4	4	3	3
40,000	-56.5	-58	-2	2	4	-58	-1	2	4	-55	4	6	7	-56	0	3	4	-56	0	1	5	5	5	3	4
30,000	-44.5	-45	-1	2	3	-42	2	4	5	-16	9	11	12	-19	5	8	9	-41	4	7	8	1	3	3	1
20,000	-21.2	-18	3	6	7	-16	5	7	9	-9	12	13	14	-12	9	11	12	-14	7	10	11	4	1	2	3
10,000	- 4.6	-1	4	6	7	1	5	7	9	9	11	15	16	4	9	11	12	1	8	10	12	4	3	2	3
CASABLANCA TO SEVILLE																						685 N.MI.			
53,000	-56.5	-61	-5	-1	0	-60	-1	-0	1	-64	-7	-5	-4	-63	-7	-4	-1	-62	-5	-2	-1	5	4	1	3
40,000	-56.5	-57	-1	3	5	-57	-0	3	5	-51	5	7	8	-56	0	3	4	-55	1	4	6	5	5	1	1
30,000	-44.5	-46	-2	1	2	-44	1	3	4	-16	9	11	12	-40	5	7	8	-41	3	6	8	3	3	3	3
20,000	-21.2	-19	2	4	6	-16	5	7	8	-9	12	14	15	-13	8	10	11	-14	7	9	11	4	1	2	3
10,000	- 4.6	-2	2	5	6	1	5	8	9	10	15	17	18	3	8	10	11	1	8	11	12	4	3	3	3
CASABLANCA TO SHANNON																						1150 N.MI.			
53,000	-56.5	-59	-1	0	2	-57	-0	2	4	-57	-1	2	3	-61	-4	-2	-0	-59	-2	1	1	5	4	4	4
40,000	-56.5	-58	-2	3	5	-57	-1	1	5	-55	4	7	8	-56	0	1	5	-56	0	4	6	6	6	4	4
30,000	-44.5	-47	-3	-0	1	-45	-0	2	3	-18	7	9	10	-42	3	5	7	-41	2	5	7	3	4	3	4
20,000	-21.2	-21	-0	1	5	-19	2	5	6	-12	10	12	13	-15	6	9	10	-17	4	7	9	5	4	3	4
10,000	- 4.6	-5	-0	1	4	-2	2	5	6	6	10	12	13	1	5	8	9	-0	4	8	9	4	4	3	4
CASABLANCA TO TUNIS																						898 N.MI.			
53,000	-56.5	-61	-4	-1	0	-60	-3	-0	1	-64	-8	-5	-4	-61	-7	-4	-1	-62	-5	-2	-1	5	4	3	3
40,000	-56.5	-57	-1	3	5	-56	0	1	5	-51	6	8	9	-56	0	3	4	-55	1	4	6	5	5	3	3
30,000	-44.5	-46	-2	0	2	-44	1	3	4	-36	9	11	12	-40	4	7	8	-41	3	6	8	3	3	3	3
20,000	-21.2	-20	2	4	6	-17	5	7	8	-9	12	14	15	-13	8	10	11	-15	7	9	11	4	3	2	3
10,000	- 4.6	-3	2	4	6	1	5	8	9	10	15	17	17	3	8	9	10	1	7	11	12	4	3	3	3
CASABLANCA TO ZURICH																						1110 N.MI.			
53,000	-56.5	-59	-3	1	2	-57	-1	2	3	-59	-3	-0	1	-61	-5	-2	-1	-59	-3	0	2	5	4	3	3
40,000	-56.5	-58	-1	2	4	-58	-1	3	4	-55	4	6	8	-56	0	3	4	-56	0	4	5	6	5	4	4
30,000	-44.5	-47	-3	-1	1	-45	-1	2	3	-37	7	9	11	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-22	-1	2	4	-19	3	5	6	-11	11	12	13	-15	7	9	10	-16	5	8	9	4	3	3	3
10,000	- 4.6	-5	-0	3	4	-2	3	5	7	7	12	14	15	1	6	8	9	0	5	8	10	4	4	3	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	D50*	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
CHEROKEE SOUND TO SANDY POINT																									954 N.MI.
53,000	-56.5	-75	-18	-17	-16	-74	-17	-16	-15	-71	-15	-13	-13	-76	-19	-17	-16	-74	-17	-16	-15	5	3	2	3
40,000	-56.5	-55	2	4	5	-55	1	3	4	-56	0	1	2	-54	2	4	4	-55	1	3	4	3	2	2	2
30,000	-44.5	-37	6	9	10	-35	9	11	11	-34	11	12	12	-35	12	13	14	-35	10	11	12	2	2	1	2
20,000	-21.2	-9	12	14	14	-8	13	15	15	-7	14	15	16	-6	15	16	17	-8	14	15	16	2	2	1	2
10,000	- 4.6	6	11	13	13	7	11	13	14	8	13	14	14	8	13	14	15	8	12	13	14	2	2	1	2
CHICAGO TO COPENHAGEN																									3698 N.MI.
53,000	-56.5	-57	-0	3	5	-51	5	8	9	-49	8	10	11	-55	2	5	6	-53	4	7	9	5	4	3	4
40,000	-56.5	-55	2	6	8	-51	5	10	12	-49	7	11	12	-53	4	8	10	-52	5	8	11	6	6	5	6
30,000	-44.5	-52	-8	-5	-3	-49	-4	-2	-0	-43	2	5	6	-46	-2	1	3	-48	-3	1	3	4	4	4	5
20,000	-21.2	-32	-11	-7	-4	-27	-4	-2	-0	-17	5	7	9	-23	-2	2	4	-25	-3	1	3	6	6	4	6
10,000	- 4.6	-17	-13	-9	-6	-12	-8	-4	-2	-2	3	5	7	-8	-3	1	1	-10	-5	-1	1	6	5	4	6
CHICAGO TO FRANKFURT																									3761 N.MI.
53,000	-56.5	-57	-0	3	5	-52	4	7	8	-50	6	9	10	-55	1	4	5	-54	3	6	8	5	4	4	4
40,000	-56.5	-54	2	6	9	-53	4	8	11	-50	6	9	11	-53	3	7	9	-53	4	8	10	6	7	5	6
30,000	-44.5	-51	-6	-4	-2	-48	-4	-1	0	-42	3	6	7	-45	-1	2	4	-47	-2	2	4	4	4	4	4
20,000	-21.2	-30	-9	-4	-2	-26	-4	-1	1	-15	6	9	10	-21	0	4	6	-23	-2	2	5	6	5	4	6
10,000	- 4.6	-16	-11	-7	-4	-10	-6	-2	-0	-0	4	6	8	-6	-1	2	4	-8	-4	0	3	6	5	3	6
CHICAGO TO GENEVA																									3806 N.MI.
53,000	-56.5	-57	-0	3	4	-53	3	6	7	-52	5	7	9	-56	0	3	5	-54	2	5	7	5	4	4	4
40,000	-56.5	-54	2	6	9	-54	3	7	10	-51	5	9	10	-54	3	7	9	-53	3	7	9	6	7	5	6
30,000	-44.5	-50	-6	-5	-1	-48	-3	-1	1	-41	4	6	8	-45	-0	3	4	-46	-1	2	4	4	4	4	4
20,000	-21.2	-29	-8	-5	-1	-25	-3	0	2	-14	7	9	11	-20	1	5	7	-22	-1	3	6	4	5	4	5
10,000	- 4.6	-14	-10	-5	-3	-9	-5	-1	1	0	5	7	9	-5	-0	3	5	-7	-2	2	4	6	5	3	5
CHICAGO TO GLASGOW																									5188 N.MI.
53,000	-56.5	-57	-0	3	5	-52	5	7	9	-50	6	9	10	-55	2	4	6	-53	3	6	8	5	4	4	4
40,000	-56.5	-54	3	7	9	-52	5	9	12	-50	6	10	12	-53	4	8	10	-52	4	8	10	6	7	5	6
30,000	-44.5	-51	-7	-4	-2	-48	-4	-1	0	-42	2	5	7	-46	-1	2	3	-47	-2	1	3	4	4	4	4
20,000	-21.2	-31	-10	-6	-3	-27	-5	-2	0	-16	5	8	10	-22	-1	3	5	-24	-3	2	4	6	6	4	6
10,000	- 4.6	-17	-12	-8	-6	-12	-7	-3	-1	-1	4	6	7	-7	-2	2	4	-9	-5	-0	2	6	5	4	6
CHICAGO TO HAMBURG																									3686 N.MI.
53,000	-56.5	-57	-0	3	5	-52	5	8	9	-49	7	10	11	-55	2	4	6	-53	3	7	8	5	4	4	4
40,000	-56.5	-54	2	6	9	-52	5	9	12	-50	7	10	12	-53	4	8	10	-52	4	8	10	6	7	5	6
30,000	-44.5	-52	-7	-4	-3	-49	-4	-1	0	-42	2	5	6	-46	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-31	-10	-6	-3	-27	-5	-2	0	-16	5	8	9	-22	-1	3	5	-24	-3	2	4	6	6	4	6
10,000	- 4.6	-17	-12	-8	-6	-12	-7	-3	-1	-1	3	6	7	-7	-3	1	3	-9	-5	-0	2	6	5	4	6
CHICAGO TO HAVANA																									1171 N.MI.
53,000	-56.5	-68	-12	-9	-8	-66	-9	-7	-6	-68	-11	-10	-9	-70	-14	-12	-10	-68	-12	-9	-7	3	3	3	4
40,000	-56.5	-57	-0	2	3	-57	-1	2	3	-55	1	3	3	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	3	5	6	-40	4	6	7	-34	11	12	13	-37	8	10	11	-38	6	9	10	3	3	2	3
20,000	-21.2	-16	6	8	9	-13	8	10	11	-7	14	15	16	-10	12	13	14	-11	10	12	13	3	3	2	3
10,000	- 4.6	-1	4	7	8	2	7	10	11	8	13	14	14	6	11	13	14	4	9	11	12	4	4	2	3
CHICAGO TO HONOLULU																									3680 N.MI.
53,000	-56.5	-64	-7	-5	-3	-61	-5	-2	-1	-64	-8	-6	-5	-66	-10	-7	-6	-66	-7	-4	-3	4	4	3	4
40,000	-56.5	-56	1	5	7	-57	-1	3	4	-54	2	4	5	-55	1	4	5	-56	1	3	4	6	5	3	4
30,000	-44.5	-44	0	3	4	-43	2	4	5	-36	9	10	11	-39	5	7	8	-40	4	7	8	4	3	3	3
20,000	-21.2	-18	3	6	8	-16	5	7	9	-8	13	15	15	-12	9	12	13	-14	7	10	12	5	4	2	4
10,000	- 4.6	-2	2	5	7	0	5	7	9	9	14	15	16	4	8	11	13	3	7	10	12	5	4	2	4
CHICAGO TO KEFLAVIK																									2549 N.MI.
53,000	-56.5	-57	-0	3	5	-51	6	8	10	-49	7	9	11	-54	2	5	6	-53	4	7	8	5	4	3	4
40,000	-56.5	-54	3	7	9	-51	6	10	12	-49	7	10	12	-52	5	9	11	-51	5	9	11	6	6	5	6
30,000	-44.5	-53	-8	-5	-4	-49	-5	-2	-1	-42	2	5	6	-47	-2	1	2	-48	-3	0	2	4	4	4	5
20,000	-21.2	-34	-12	-8	-6	-28	-7	-3	-1	-17	5	7	9	-24	-3	1	3	-26	-4	0	3	6	6	4	6
10,000	- 4.6	-20	-15	-11	-8	-14	-9	-5	-3	-2	3	5	6	-9	-4	-0	2	-11	-7	-2	0	7	6	4	6
CHICAGO TO KINGSTON																									1551 N.MI.
53,000	-56.5	-70	-13	-11	-10	-67	-11	-9	-8	-69	-12	-10	-10	-72	-15	-13	-12	-69	-13	-10	-9	3	3	2	3
40,000	-56.5	-57	-0	2	4	-57	-0	2	4	-56	1	2	3	-55	1	3	4	-56	1	3	4	3	3	2	3
30,000	-44.5	-41	4	6	7	-39	5	7	8	-34	11	12	13	-36	9	10	11	-37	7	9	10	3	2	2	3
20,000	-21.2	-14	7	9	11	-12	9	11	12	-7	14	15	16	-9	12	14	15	-10	11	13	14	3	3	2	3
10,000	- 4.6	1	6	8	9	3	8	10	11	8	13	14	14	6	11	13	14	5	9	11	12	3	3	1	3
CHICAGO TO LISBON																									3473 N.MI.
53,000	-56.5	-58	-1	1	3	-56	1	4	5	-56	0	3	4	-59	-3	0	2	-57	-1	2	4	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	1	5	7	-54	3	6	7	-55	2	5	7	-55	2	5	7	6	6	4	5
30,000	-44.5	-48	-4	-1	1	-46	-2	1	2	-38	6	9	10	-43	2	5	6	-44	1	4	6	4	4	4	4
20,000	-21.2	-25	-3	0	3	-22	-1	3	4	-12	9	12	13	-16	5	8	10	-19	3	6	8	6	5	3	5
10,000	- 4.6	-11	-6	-2	1	-6	-1	2	4	3	8	10	11	-2	3	6	8	-4	1	4	6	6	5	3	5
CHICAGO TO LONDON																									3423 N.MI.
53,000	-56.5	-57	-0	3	5	-52	4	7	8	-51	6	8	10	-55	1	4	5	-54	3	6	8	5	4	4	4
40,000	-56.5	-54	3	7	9	-53	4	8	11	-51	6	9	11	-53	3	7	9	-53	4	8	10	6	7	5	6
30,000	-44.5	-51	-6	-3	-2	-48	-4	-1	1	-41	3	6	7	-45	-1	2	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-30	-9	-4	-2	-26	-4	-1	1	-15	6	9	10	-21	0	4	6	-23	-2	3	5	7	6	4	6
10,000	- 4.6	-16	-11	-7	-4	-10	-6	-2	-0	-0	4	7	8	-6	-1	3	5	-8	-3	1	3	6	5	4	6
CHICAGO TO MADRID																									3640 N.MI.
53,000	-56.5	-57	-1	2	3	-55	2	4	6	-55	1	4	6	-58	-2	1	3	-56	0	3	5	4	4	4	4
40,000	-56.5	-55	1	5	8	-55	1	5	8	-53	3	7	8	-54	2	5	7	-55	2	5	7	6	6	5	5
30,000	-44.5	-49	-4	-1	0	-47	-2	0	2	-39	5	8	10	-43	1	4	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-1	2	-23	-1	2	4	-13	9	11	12	-18	4	7	9	-20	2	5	8	6	5	4	5
10,000	- 4.6	-12	-7	-3	-1	-7	-2	1	3	3	7	9	11	-3	2	5	7	-5	-0	4	6	7	5	3	5
CHICAGO TO MELBOURNE																									8395 N.MI.
53,000	-56.5	-73	-16	-14	-13	-71	-15	-12	-11	-70	-14	-12	-11	-71	-14	-12	-11	-71	-15	-13	-11	3	3	3	3
40,000	-56.5	-55	2	4	6	-55	1	4	5	-54	2	4	5	-54	2	4	5	-55	2	4	5	4	3	2	3
30,000	-44.5	-37	7	9	10	-38	7	9	10	-36	9	10	11	-37	8	10	11	-37	8	10	11	3	3	2	3
20,000	-21.2	-11	10	12	13	-11	10	12	13	-9	12	13	14	-10	11	13	14	-10	11	12	13	3	3	2	3
10,000	- 4.6	5	10	12	13	6	10	12	13	7	12	13	14	6	11	13	14	6	11	12	13	3	3	2	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
CHICAGO TO MEXICO CITY																									1468 N.MI.
53,000	-56.5	-69	-12	-10	-9	-67	-10	-8	-7	-69	-13	-11	-10	-72	-15	-13	-12	-69	-13	-10	-8	3	3	3	3
40,000	-56.5	-57	-0	2	4	-57	-1	2	3	-55	2	3	4	-55	1	3	4	-56	1	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-33	11	13	13	-37	8	10	13	-38	7	9	10	2	2	2	3
20,000	-23.2	-15	6	8	10	-13	9	11	12	-7	14	16	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	0	5	8	9	5	9	12	11	9	14	15	16	7	12	14	15	5	10	12	13	4	4	2	3
CHICAGO TO MONTREAL																									647 N.MI.
53,000	-56.5	-59	-2	1	2	-57	-0	3	4	-59	-2	0	2	-60	-4	-1	1	-59	-2	1	3	4	4	4	4
40,000	-56.5	-55	1	5	8	-55	1	5	8	-53	5	6	7	-55	2	5	7	-55	2	5	6	6	6	4	5
30,000	-44.5	-49	-5	-2	-1	-47	-3	-0	1	-37	7	10	11	-43	2	5	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-22	-1	2	4	-11	10	13	14	-16	5	8	10	-19	2	6	8	6	5	3	5
10,000	- 4.6	-13	-9	-4	-2	-7	-3	1	3	4	9	11	12	-1	4	8	10	-4	0	4	6	7	5	3	6
CHICAGO TO MOSCOW																									4303 N.MI.
53,000	-56.5	-58	-2	2	4	-50	6	9	11	-47	10	12	13	-54	3	5	7	-52	4	7	9	5	4	3	4
40,000	-56.5	-56	0	4	6	-51	6	10	12	-48	8	11	13	-52	4	8	10	-52	5	9	11	6	6	5	5
30,000	-44.5	-54	-10	-7	-6	-50	-6	-3	-1	-43	1	4	6	-48	-4	-0	3	-49	-4	-1	2	4	4	4	5
20,000	-21.2	-54	-13	-9	-7	-29	-8	-4	-2	-18	3	6	7	-25	-4	0	2	-26	-5	-1	2	6	6	4	6
10,000	- 4.6	-20	-15	-11	-9	-14	-10	-6	-4	-5	2	4	5	-10	-5	-2	0	-12	-7	-3	-1	6	6	4	6
CHICAGO TO OSLO																									3506 N.MI.
53,000	-56.5	-57	-1	3	5	-51	6	9	10	-48	8	10	12	-54	2	5	6	-53	4	7	9	5	4	3	4
40,000	-56.5	-55	2	6	8	-51	6	10	12	-49	8	11	13	-52	4	8	10	-52	5	9	11	6	6	5	6
30,000	-44.5	-53	-9	-6	-4	-49	-5	-2	-0	-43	2	4	6	-47	-3	1	2	-48	-4	0	2	4	4	4	5
20,000	-21.2	-33	-12	-8	-5	-28	-7	-5	-1	-17	4	7	8	-24	-3	1	3	-26	-4	0	2	6	6	4	6
10,000	- 4.6	-18	-14	-10	-7	-13	-9	-5	-3	-2	2	5	6	-9	-4	-0	2	-11	-6	-2	0	6	6	4	6
CHICAGO TO PANAMA																									2025 N.MI.
53,000	-56.5	-72	-15	-13	-12	-70	-13	-11	-10	-70	-11	-12	-11	-73	-17	-15	-14	-71	-15	-32	-11	3	3	2	3
40,000	-56.5	-56	1	3	4	-55	1	3	4	-56	1	2	3	-55	2	3	4	-55	1	3	4	3	3	2	3
30,000	-44.5	-39	6	7	8	-37	7	9	9	-33	11	12	13	-35	10	11	12	-36	8	10	11	2	2	2	2
20,000	-21.2	-12	9	11	12	-10	11	13	14	-7	14	15	16	-8	13	15	15	-9	12	13	14	1	1	1	2
10,000	- 4.6	5	8	10	11	5	10	12	11	9	13	14	13	6	12	14	15	6	11	12	13	3	1	1	2
CHICAGO TO PARIS																									3596 N.MI.
53,000	-56.5	-57	-0	3	5	-51	4	6	8	-51	5	8	9	-56	1	4	5	-54	2	6	7	5	4	4	4
40,000	-56.5	-54	2	7	9	-53	3	8	10	-51	6	9	11	-53	1	7	9	-53	4	7	9	6	7	5	6
30,000	-44.5	-50	-6	-1	-1	-48	-3	-1	1	-41	1	6	8	-45	-0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-4	-1	-25	-4	-0	2	-15	7	9	11	-20	1	4	6	-22	-1	3	5	7	5	4	5
10,000	- 4.6	-15	-10	-6	-4	-10	-5	-2	0	0	5	7	8	-5	-1	3	5	-7	-3	1	3	6	5	3	5
CHICAGO TO RIO DE JANEIRO																									4609 N.MI.
53,000	-56.5	-74	-18	-16	-15	-73	-17	-15	-13	-70	-14	-12	-11	-73	-17	-15	-15	-73	-16	-14	-12	3	3	3	3
40,000	-56.5	-55	2	4	5	-54	3	5	6	-54	2	4	4	-54	2	4	5	-54	2	4	6	3	3	2	2
30,000	-44.5	-36	9	10	11	-34	10	12	11	-33	11	13	13	-31	12	13	14	-34	11	12	13	2	2	2	2
20,000	-21.2	-9	13	14	15	-8	13	15	14	-8	15	15	15	-7	14	15	16	-8	13	15	16	2	2	2	2
10,000	- 4.6	6	11	12	11	7	12	13	14	8	12	14	14	8	13	14	15	7	12	14	14	3	2	2	2
CHICAGO TO ROME																									4190 N.MI.
53,000	-56.5	-57	-0	1	4	-54	1	6	7	-52	4	7	8	-57	-0	3	4	-55	2	5	6	5	4	4	4
40,000	-56.5	-55	2	6	8	-54	2	7	9	-52	5	8	10	-54	3	6	8	-54	3	7	9	6	6	5	5
30,000	-44.5	-50	-5	-1	-1	-48	-1	-0	1	-40	4	7	8	-44	0	3	5	-46	-1	3	5	4	4	4	4
20,000	-21.2	-28	-7	-1	-0	-24	-1	1	2	-14	7	10	11	-19	2	5	7	-21	-0	4	6	6	5	4	5
10,000	- 4.6	-14	-9	-5	-2	-8	-4	-0	1	1	6	8	9	-4	0	4	6	-6	-2	2	4	6	5	3	5
CHICAGO TO SAN JUAN																									1801 N.MI.
53,000	-56.5	-69	-13	-11	-9	-67	-11	-8	-7	-68	-11	-10	-9	-71	-14	-12	-11	-69	-12	-10	-9	1	1	2	3
40,000	-56.5	-56	0	1	4	-57	-0	2	3	-56	1	2	1	-55	1	3	4	-56	0	3	4	4	4	2	3
30,000	-44.5	-41	4	6	7	-39	5	7	8	-14	10	12	12	-16	8	10	11	-38	7	9	10	1	3	2	3
20,009	-21.2	-14	7	9	10	-12	9	11	12	-7	14	15	14	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	1	5	8	9	3	7	9	11	8	12	13	14	6	11	12	11	4	9	11	12	4	3	2	3
CHICAGO TO SANTA MARIA																									2856 N.MI.
53,000	-56.5	-59	-3	-0	1	-57	-1	2	3	-59	-3	-0	1	-61	-5	-2	0	-59	-3	0	2	4	4	4	4
40,000	-56.5	-57	-0	4	6	-56	0	4	6	-54	2	5	6	-55	1	4	6	-56	1	4	5	6	6	4	5
30,000	-44.5	-47	-3	-0	1	-46	-1	1	3	-37	7	10	11	-41	1	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-23	-2	2	4	-20	1	4	5	-11	11	11	14	-15	7	10	11	-17	4	7	9	5	5	3	4
10,000	- 4.6	-9	-4	-0	2	-5	-0	3	4	4	9	11	12	0	5	8	10	-2	2	6	7	6	5	3	4
CHICAGO TO SANTIAGO																									4627 N.MI.
53,000	-56.5	-74	-17	-15	-14	-72	-16	-14	-11	-70	-13	-11	-10	-72	-16	-14	-12	-72	-16	-13	-12	3	3	3	1
40,000	-56.5	-54	2	4	5	-54	2	5	6	-54	2	4	5	-54	2	4	5	-54	2	4	6	3	3	2	3
30,000	-44.5	-36	9	10	11	-35	10	11	12	-34	10	12	13	-34	11	12	13	-35	10	12	13	2	2	2	2
20,000	-21.2	-9	13	14	15	-8	13	15	15	-9	12	11	14	-8	14	15	16	-8	13	14	15	2	2	2	2
10,000	- 4.6	6	11	11	14	7	11	13	14	7	12	11	14	8	12	14	14	7	12	13	14	2	3	2	2
CHICAGO TO SHANNON																									3109 N.MI.
53,000	-56.5	-57	-0	1	5	-55	4	7	8	-51	5	8	9	-55	1	4	5	-54	3	6	7	5	4	4	4
40,000	-56.5	-54	3	7	9	-53	4	8	11	-51	6	9	11	-55	4	7	9	-53	4	8	10	6	7	5	6
30,000	-44.5	-50	-6	-3	-2	-48	-4	-1	1	-41	3	6	8	-45	-0	2	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-30	-9	-4	-2	-26	-4	-1	1	-15	6	9	11	-21	0	4	6	-23	-2	3	5	7	6	4	6
10,000	- 4.6	-16	-11	-7	-5	-10	-6	-2	-0	-0	4	7	8	-6	-1	3	5	-8	-3	1	3	7	5	4	6
CHICAGO TO STOCKHOLM																									3699 N.MI.
53,000	-56.5	-58	-1	1	5	-50	6	9	10	-48	9	11	12	-54	2	5	6	-52	4	7	9	5	4	3	4
40,000	-56.5	-55	1	5	7	-51	6	10	12	-49	8	11	13	-52	4	8	10	-52	5	9	11	6	6	5	6
30,000	-44.5	-54	-9	-6	-5	-50	-5	-2	-1	-43	1	4	6	-47	-1	0	2	-48	-4	-0	2	4	4	4	5
20,000	-21.2	-33	-12	-8	-6	-29	-8	-4	-2	-18	4	6	8	-24	-3	1	3	-26	-5	-0	2	6	6	4	6
10,000	- 4.6	-19	-14	-10	-8	-14	-9	-5	-3	-3	2	4	6	-9	-5	-1	1	-11	-6	-2	0	6	6	4	6
CHICAGO TO TOKYO																									5463 N.MI.
53,000	-56.5	-52	4	8	10	-51	6	8	10	-51	5	8	9	-54	3	5	7	-52	4	7	9	5	4	3	4
40,000	-56.5	-53	3	7	9	-52	5	8	10	-50	6	10	12	-52	4	7	9	-52	5	8	10	6	5	5	5
30,000	-44.5	-52	-8	-5	-4	-50	-5	-2	-1	-39	5	8	9	-47	-2	1	2	-47	-3	2	4	4	4	4	4
20,000	-21.2	-32	-11	-6	-4	-27	-6	-2	-0	-14	8	10	11	-24	-2	1	3	-24	-3	2	4	6	5	4	5
10,000	- 4.6	-18	-13	-8	-6	-12	-7	-4	-2	1	6	8	10	-8	-4	-0	1	-9	-5	0	2	7	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY				APRIL				JULY				OCTOBER				ANNUAL				STANDARD DEVIATION			
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
CHICAGO TO TORONTO																									378 N.MI.
55,000	-56.5	-59	-5	0	2	-58	-1	2	5	-60	-4	-1	0	-62	-5	-2	-1	-60	-5	-0	2	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	1	5	7	-55	5	5	6	-55	1	4	6	-55	1	4	6	6	6	5	5
30,000	-44.5	-49	-4	-2	-0	-46	-2	0	2	-37	8	10	11	-42	2	5	6	-45	1	5	7	4	5	5	4
20,000	-21.2	-25	-4	-1	1	-21	0	5	5	-10	11	15	14	-16	6	9	10	-18	5	7	9	5	5	5	5
10,000	-4.6	-17	-7	-5	-1	-6	-1	2	4	5	10	12	15	0	5	8	10	-5	1	5	7	6	5	5	5
CHICAGO TO VANCOUVER																									1527 N.MI.
55,000	-56.5	-58	-1	2	4	-56	1	1	5	-57	-1	2	5	-60	-5	-1	1	-58	-1	2	5	5	4	5	4
40,000	-56.5	-56	1	5	8	-56	0	4	7	-54	5	5	7	-56	0	4	5	-55	1	4	6	6	6	4	5
30,000	-44.5	-51	-6	-4	-2	-48	-5	-1	0	-38	6	9	10	-45	1	4	5	-45	-0	5	5	4	5	5	4
20,000	-21.2	-28	-7	-2	0	-22	-1	2	4	-11	10	12	13	-18	5	6	8	-20	1	5	7	7	5	5	5
10,000	-4.6	-15	-9	-4	-1	-6	-1	2	4	6	11	15	14	-2	5	7	9	-4	1	5	8	7	5	4	6
CHICAGO TO VIENNA																									4082 N.MI.
55,000	-56.5	-57	-0	5	5	-52	4	7	8	-50	7	9	10	-55	1	4	5	-55	5	6	8	5	4	4	4
40,000	-56.5	-55	2	6	8	-52	4	8	11	-50	6	10	12	-53	5	7	9	-53	4	8	10	6	6	5	6
30,000	-44.5	-51	-7	-4	-7	-48	-4	-1	0	-42	5	5	7	-45	-1	2	4	-47	-2	2	5	4	4	4	4
20,000	-21.2	-30	-9	-5	-5	-26	-5	-1	1	-15	6	8	10	-21	-0	4	6	-23	-2	2	4	6	5	4	6
10,000	-4.6	-16	-11	-7	-5	-11	-5	-2	-1	-1	4	6	8	-6	-2	2	4	-8	-4	0	2	6	5	5	6
CHICAGO TO WARSAW																									4057 N.MI.
55,000	-56.5	-57	-0	5	5	-51	5	8	9	-49	8	10	11	-55	2	4	6	-53	4	7	8	5	4	5	4
40,000	-56.5	-55	1	6	8	-51	5	9	12	-49	7	10	12	-53	4	7	9	-52	4	8	10	6	6	5	6
30,000	-44.5	-52	-8	-5	-5	-49	-4	-2	-0	-42	2	5	6	-46	-2	1	5	-48	-5	1	5	4	4	4	5
20,000	-21.2	-32	-11	-6	-4	-27	-6	-2	-0	-16	5	7	9	-23	-1	2	4	-24	-5	1	5	6	5	4	6
10,000	-4.6	-17	-12	-8	-6	-12	-7	-4	-2	-2	5	5	7	-8	-5	1	5	-10	-5	-1	1	6	5	4	6
CHICAGO TO WINNIPEG																									613 N.MI.
55,000	-56.5	-54	-1	2	5	-56	1	5	4	-58	-1	1	5	-60	-5	-0	1	-58	-1	2	5	5	4	4	4
40,000	-56.5	-55	2	6	8	-54	1	5	7	-51	5	6	7	-55	1	5	4	-55	2	5	6	6	6	4	5
30,000	-44.5	-51	-6	-4	-2	-48	-1	-1	0	-38	7	9	11	-44	1	5	5	-45	-0	5	5	4	5	5	4
20,000	-21.2	-29	-6	-4	-2	-22	-1	2	4	-11	10	12	14	-18	5	7	9	-20	1	5	7	6	5	5	5
10,000	-4.6	-15	-11	-6	-1	-7	-2	1	5	5	9	12	15	-2	5	7	9	-5	-0	4	7	7	6	4	6
CHICAGO TO ZURICH																									5848 N.MI.
55,000	-56.5	-57	-0	1	5	-55	4	6	8	-51	6	8	9	-56	1	5	5	-54	2	6	7	5	4	4	4
40,000	-56.5	-56	2	6	9	-55	5	6	10	-51	6	9	11	-54	5	7	9	-55	4	7	9	6	7	5	8
30,000	-44.5	-50	-6	-5	-2	-48	-1	-1	1	-41	5	6	7	-45	-0	5	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-4	-1	-25	-4	-0	2	-15	6	9	10	-21	1	4	6	-22	-1	5	5	6	5	4	5
10,000	-4.6	-15	-10	-6	-4	-10	-5	-2	0	0	5	7	8	-5	-1	5	5	-7	-5	1	5	6	5	5	5
CHITOSE TO COLD BAY																									2245 N.MI.
55,000	-56.5	-47	9	15	15	-50	7	9	10	-50	6	9	10	-51	5	8	9	-50	7	11	15	5	4	4	4
40,000	-56.5	-52	5	8	10	-51	5	10	12	-50	7	11	15	-52	5	8	10	-51	5	9	12	5	4	5	5
30,000	-44.5	-52	-7	-5	-5	-50	-5	-2	-0	-38	7	10	12	-47	-2	1	2	-47	-2	5	6	4	4	5	4
20,000	-21.2	-51	-9	-5	-5	-27	-6	-2	-0	-12	9	12	15	-24	-5	0	2	-24	-2	5	5	6	5	4	5
10,000	-4.6	-16	-12	-8	-6	-15	-8	-5	-5	2	7	9	10	-9	-5	-2	0	-9	-5	0	5	5	5	4	5
CHITOSE TO TOKYO																									444 N.MI.
55,000	-56.5	-55	4	7	9	-57	-0	5	5	-60	-5	0	2	-59	-2	1	5	-57	-0	4	6	5	5	5	5
40,000	-56.5	-49	7	11	11	-54	1	6	8	-48	8	11	15	-51	5	8	10	-51	6	9	11	5	6	4	5
30,000	-44.5	-46	-2	2	1	-42	2	6	8	-29	14	19	21	-37	8	11	12	-38	6	11	14	5	5	5	4
20,000	-21.2	-28	-6	-5	-1	-19	2	6	8	-5	14	18	19	-15	6	10	11	-17	5	9	12	5	5	5	5
10,000	-4.6	-14	-10	-6	-4	-5	-0	5	4	9	14	16	17	-1	4	7	8	-5	2	6	9	5	5	5	4
CHITTAGONG TO DACCA																									120 N.MI.
55,000	-56.5	-76	-17	-15	-14	-70	-14	-11	-9	-76	-19	-16	-15	-75	-17	-14	-15	-75	-17	-15	-12	4	4	4	4
40,000	-56.5	-56	1	5	5	-52	4	7	9	-50	7	10	11	-56	2	5	7	-55	4	7	9	4	4	4	4
30,000	-44.5	-56	8	11	12	-54	10	15	16	-26	18	20	21	-52	12	15	16	-52	12	15	17	4	4	2	4
20,000	-21.2	-10	11	15	14	-8	15	15	16	-5	18	20	20	-6	15	17	18	-7	14	17	18	5	5	2	3
10,000	-4.6	6	10	12	15	8	15	14	15	12	17	19	18	8	12	14	15	8	15	15	16	5	5	2	2
CHITTAGONG TO RANGOON																									404 N.MI.
55,000	-56.5	-76	-20	-18	-16	-71	-17	-14	-15	-77	-20	-18	-16	-76	-19	-17	-15	-75	-19	-56	-15	5	4	4	4
40,000	-56.5	-56	1	5	4	-52	5	7	8	-51	5	8	9	-54	2	5	4	-55	5	6	7	5	5	4	4
30,000	-44.5	-54	10	12	15	-32	11	15	76	-28	17	18	19	-32	15	15	16	-51	15	15	16	5	5	2	5
20,000	-21.2	-8	15	15	16	-6	15	17	18	-4	17	18	19	-6	15	17	18	-6	15	17	16	5	2	2	2
10,000	-4.6	7	12	14	15	9	14	15	16	11	16	17	17	8	15	14	15	9	14	15	16	5	2	1	2
CHRISTCHURCH TO MELBOURNE																									1298 N.MI.
55,000	-56.5	-60	-5	-1	1	-59	-2	0	2	-56	1	5	5	-54	5	5	6	-57	-1	2	5	4	4	4	5
40,000	-56.5	-56	0	4	5	-56	0	5	5	-55	2	5	7	-52	4	8	10	-55	2	6	8	5	5	5	6
30,000	-44.5	-41	1	5	7	-46	-2	1	2	-51	-6	-4	-2	-47	-2	0	1	-46	-2	1	5	5	5	4	4
20,000	-21.2	-15	6	8	10	-20	1	4	5	-25	-4	-1	0	-21	0	5	4	-20	1	4	6	5	4	4	4
10,000	-4.6	1	6	8	10	-5	2	4	5	-7	-5	-1	1	-4	0	5	5	-5	1	5	6	4	5	5	4
CHRISTCHURCH TO NANDI																									1564 N.MI.
55,000	-56.5	-68	-11	-9	-8	-67	-11	-8	-6	-61	-6	-4	-5	-62	-6	-4	-2	-65	-9	-6	-4	4	4	5	5
40,000	-56.5	-55	2	4	6	-54	2	4	6	-54	2	5	6	-54	5	6	7	-54	2	5	7	4	4	4	4
30,000	-44.5	-38	7	9	10	-39	5	8	9	-45	1	4	5	-42	2	5	6	-41	4	7	8	5	4	4	5
20,000	-21.2	-11	10	12	15	-14	7	10	11	-18	5	5	7	-16	5	7	8	-15	6	9	10	5	5	5	5
10,000	-4.6	5	16	17	15	5	8	10	11	-2	5	5	6	1	5	7	9	2	6	9	10	5	5	5	5
CHRISTCHURCH TO OHAKEA																									239 N.MI.
55,000	-56.5	-60	-5	-0	1	-58	-1	1	2	-56	1	5	5	-54	5	5	6	-57	-0	5	4	4	4	4	5
40,000	-56.5	-56	1	4	6	-55	1	4	6	-55	2	5	7	-55	4	8	10	-55	2	6	8	5	5	5	6
30,000	-44.5	-42	2	5	6	-46	-1	1	5	-51	-7	-4	-5	-48	-5	-0	1	-47	-2	1	5	5	4	4	4
20,000	-21.2	-16	5	8	9	-20	1	4	5	-25	-4	-1	0	-21	-0	2	4	-21	1	4	6	5	4	4	4
10,000	-4.6	0	5	7	8	-5	2	4	5	-8	-5	-1	0	-5	-0	2	4	-4	1	4	6	4	5	5	4
CHRISTCHURCH TO SYDNEY																									1147 N.MI.
55,000	-56.5	-62	-5	-5	-1	-60	-4	-1	0	-57	-0	2	4	-55	1	5	4	-59	-2	1	2	4	4	4	5
40,000	-56.5	-56	0	5	5	-56	1	4	6	-54	2	5	7	-55	4	7	9	-55	2	6	8	4	5	5	5
30,000	-44.5	-41	4	6	7	-45	-1	2	5	-50	-5	-5	-1	-46	-2	1	2	-46	-1	2	4	5	4	4	4
20,000	-21.2	-14	7	9	10	-17	2	5	6	-24	-5	-0	1	-20	1	5	5	-19	2	5	7	5	4	4	4
10,000	-4.6	2	7	9	11	-2	2	5	6	-7	-2	0	1	-5	1	4	5	-5	2	5	7	4	5	5	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																				STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
CHUNG KING TO HONG KONG																									596 N.MI.
51,000	-56.5	-71	-14	-11	-10	-71	-14	-12	-10	-71	-15	-12	-10	-69	-13	-10	-8	-71	-14	-11	-9	4	4	4	4
40,000	-56.5	-55	4	6	7	-52	4	6	8	-50	7	9	10	-55	4	6	7	-52	5	7	9	3	3	3	3
30,000	-44.5	-35	9	11	13	-34	11	13	14	-27	17	19	20	-31	13	15	16	-32	13	15	17	3	3	3	3
20,000	-21.2	-12	9	11	12	-8	13	15	16	-3	18	19	20	-8	14	16	17	-8	13	16	17	3	3	2	3
10,000	- 4.6	1	6	8	9	6	11	12	13	11	16	17	18	7	11	13	14	6	11	13	14	3	2	2	2
CHUNG KING TO MANILA																									1204 N.MI.
51,000	-56.5	-76	-17	-15	-11	-76	-18	-15	-14	-76	-17	-14	-13	-72	-15	-13	-11	-73	-17	-14	-13	4	4	4	4
40,000	-56.5	-53	5	5	6	-52	4	6	7	-51	5	7	8	-53	4	6	7	-52	4	6	7	3	3	3	3
30,000	-44.5	-33	11	13	14	-32	12	14	15	-29	14	17	18	-31	14	15	16	-31	13	15	16	3	3	2	2
20,000	-21.2	-9	12	13	14	-7	15	16	17	-4	18	19	19	-7	15	16	17	-7	15	16	17	2	2	2	2
10,000	- 4.6	4	9	11	12	8	13	14	15	11	16	17	17	8	13	14	15	8	13	14	15	3	2	1	2
CHUNG KING TO NANKING																									667 N.MI.
51,000	-56.5	-65	-8	-5	-3	-65	-9	-4	-5	-67	-11	-7	-4	-65	-9	-6	-4	-66	-9	-5	-3	5	4	5	5
40,000	-56.5	-52	4	7	8	-51	4	7	8	-48	9	11	12	-52	5	7	9	-51	5	8	10	4	4	4	4
30,000	-44.5	-40	5	8	9	-37	7	10	11	-27	18	20	21	-34	11	13	14	-34	10	14	16	4	4	3	4
20,000	-21.2	-18	3	4	7	-12	9	11	13	-3	18	20	21	-11	10	13	14	-11	10	13	15	4	4	2	4
10,000	- 4.6	-5	0	3	4	1	6	8	9	11	16	17	18	3	8	10	11	3	7	10	12	4	3	2	3
CHUNG KING TO PEIPING																									774 N.MI.
55,000	-56.5	-60	-3	0	2	-61	-4	-2	-0	-63	-7	-4	-2	-62	-6	-3	-1	-62	-5	-1	0	5	4	5	5
40,000	-56.5	-53	4	6	8	-53	4	7	9	-47	10	12	14	-52	5	8	9	-51	5	9	11	4	5	4	4
10,000	-44.5	-45	-0	3	4	-41	1	6	8	-27	18	20	22	-37	8	10	12	-37	7	12	14	4	5	4	4
20,000	-21.2	-23	-1	2	3	-14	5	8	10	-3	18	20	21	-14	7	10	12	-14	7	11	14	4	5	4	4
10,000	- 4.6	-8	-4	-1	1	-2	3	4	7	10	15	17	18	1	5	8	9	0	5	9	11	4	4	3	4
CHUNG KING TO RANGOON																									951 N.MI.
55,000	-56.5	-73	-17	-14	-13	-72	-15	-13	-11	-74	-18	-15	-13	-72	-15	-13	-11	-73	-16	-13	-12	4	4	4	4
40,000	-56.5	-55	2	4	5	-52	4	7	8	-50	4	8	9	-54	3	5	6	-53	4	6	8	3	3	3	1
10,000	-44.5	-35	9	12	11	-33	12	14	15	-27	17	19	19	-12	12	15	16	-32	13	15	14	3	3	2	3
20,000	-21.2	-10	11	13	14	-7	14	14	17	-3	18	19	20	-7	14	16	17	-7	14	16	17	3	3	2	1
10,000	- 4.6	4	8	10	11	8	13	14	15	12	14	17	18	7	12	13	14	8	12	14	15	3	2	2	2
CHUNG KING TO TAIPEI																									840 N.MI.
55,000	-56.5	-69	-11	-9	-8	-70	-11	-10	-9	-70	-14	-11	-9	-68	-12	-9	-7	-69	-11	-9	-8	5	4	5	5
40,000	-56.5	-52	4	6	8	-52	4	6	8	-49	7	10	11	-52	4	7	8	-52	5	8	9	3	4	3	3
10,000	-44.5	-36	9	11	12	-35	10	12	13	-27	17	19	20	-32	13	15	16	-32	12	15	17	4	3	3	1
20,000	-21.2	-13	8	10	11	-9	12	14	15	-3	18	19	20	-8	11	15	14	-9	11	15	17	3	3	2	1
10,000	- 4.6	-0	4	4	8	5	9	11	12	11	16	17	18	4	10	12	11	5	10	12	14	1	3	2	1
CHURCHILL TO KEFLAVIK																									1968 N.MI.
51,000	-56.5	-58	-1	3	5	-48	9	12	13	-45	11	13	14	-52	5	7	8	-51	4	9	11	6	4	3	3
40,000	-56.5	-55	1	5	8	-49	8	12	14	-47	10	13	15	-50	4	10	12	-50	6	10	12	4	4	5	5
30,000	-44.5	-56	-11	-8	-7	-51	-6	-3	-2	-45	-1	2	3	-50	-5	-2	-0	-50	-6	-2	-0	4	5	4	5
20,000	-21.2	-58	-16	-11	-11	-53	-11	-7	-5	-21	1	4	5	-28	-7	-3	-1	-30	-9	-4	-1	4	6	4	4
10,000	- 4.6	-24	-19	-15	-13	-18	-14	-10	-7	-6	-1	2	3	-14	-10	-4	-4	-16	-11	-6	-4	6	4	4	6
CHURCHILL TO LONDON																									2975 N.MI.
55,000	-56.5	-57	-1	3	5	-49	7	10	11	-46	10	12	14	-51	1	4	7	-51	5	8	10	6	4	1	4
40,000	-56.5	-55	1	5	8	-50	6	11	11	-48	9	12	14	-52	5	9	11	-51	5	9	12	7	4	5	4
10,000	-44.5	-56	-9	-6	-5	-50	-5	-2	-1	-44	0	1	4	-48	-4	-0	1	-49	-4	-1	1	4	4	4	5
20,000	-21.2	-14	-13	-9	-7	-30	-8	-4	-2	-19	2	5	7	-26	-4	-0	2	-27	-6	-1	1	6	6	4	6
10,000	- 4.6	-19	-15	-11	-9	-15	-10	-6	-4	-4	1	3	4	-11	-6	-1	-1	-12	-8	-3	-1	4	4	4	6
CHURCHILL TO MONTREAL																									1085 N.MI.
55,000	-56.5	-54	1	4	6	-52	5	7	9	-51	6	8	9	-55	2	4	6	-53	3	6	8	5	4	4	4
40,000	-56.5	-53	3	7	9	-52	5	9	11	-51	6	9	11	-52	4	8	10	-52	4	8	10	6	6	5	5
30,000	-44.5	-54	-9	-6	-5	-50	-6	-1	-2	-41	1	4	7	-47	-2	1	2	-48	-4	0	1	4	4	4	4
20,000	-21.2	-15	-14	-10	-7	-29	-7	-4	-2	-16	5	8	10	-23	-2	2	4	-26	-4	0	3	4	6	4	6
10,000	- 4.6	-23	-18	-13	-10	-14	-10	-4	-1	-1	4	6	8	-8	-3	1	4	-11	-7	-2	1	7	4	4	7
CHURCHILL TO OTTAWA																									1047 N.MI.
51,000	-56.5	-56	0	4	6	-52	4	7	9	-51	6	8	9	-55	2	4	5	-53	3	6	8	5	4	4	4
40,000	-56.5	-54	3	7	9	-52	4	8	10	-51	5	9	10	-52	4	8	10	-52	4	8	10	6	6	5	5
10,000	-44.5	-54	-9	-6	-5	-50	-6	-3	-2	-41	1	6	7	-47	-2	1	2	-48	-4	0	1	4	4	4	4
20,000	-21.2	-15	-14	-10	-7	-28	-7	-3	-1	-16	6	8	10	-23	-2	2	5	-25	-4	1	3	6	6	4	6
10,000	- 4.6	-22	-18	-13	-10	-14	-9	-5	-3	-1	4	6	8	-8	-3	1	4	-11	-7	-2	1	7	4	4	7
CHURCHILL TO RESOLUTE BAY																									958 N.MI.
55,000	-56.5	-58	-1	1	5	-47	9	12	14	-45	11	11	14	-52	5	6	7	-51	6	9	10	6	4	1	3
40,000	-56.5	-57	-0	4	6	-50	7	10	12	-47	10	13	15	-51	6	9	11	-51	6	10	12	6	5	5	5
10,000	-44.5	-58	-13	-10	-9	-53	-9	-6	-4	-46	-1	1	2	-52	-7	-5	-3	-52	-8	-4	-2	4	5	1	4
20,000	-21.2	-41	-20	-17	-15	-55	-14	-10	-8	-21	-0	3	4	-31	-10	-6	-4	-32	-11	-6	-3	5	6	4	5
10,000	- 4.6	-29	-24	-20	-18	-21	-17	-11	-10	-6	-1	1	3	-17	-12	-9	-7	-18	-14	-8	-6	6	6	4	5
CHURCHILL TO SAN FRANCISCO																									1675 N.MI.
51,000	-56.5	-58	-1	2	4	-55	2	4	6	-55	1	1	4	-59	-2	0	1	-57	-0	1	4	5	4	3	4
40,000	-56.5	-56	1	5	7	-55	1	5	7	-51	3	6	8	-55	2	5	7	-55	2	5	7	6	6	4	5
10,000	-44.5	-57	-7	-4	-1	-48	-4	-2	-0	-40	5	7	8	-44	0	2	4	-46	-2	2	3	4	1	3	4
20,000	-21.2	-30	-8	-4	-1	-24	-2	1	3	-11	8	10	11	-20	2	5	7	-21	-0	4	6	7	5	3	5
10,000	- 4.6	-15	-10	-5	-3	-8	-3	0	2	5	9	12	13	-4	1	5	7	-5	-1	4	6	7	5	4	6
CHURCHILL TO VANCOUVER																									1163 N.MI.
55,000	-56.5	-54	1	5	7	-52	5	7	8	-50	6	9	10	-56	1	3	5	-51	1	6	7	6	4	3	4
40,000	-56.5	-55	2	6	8	-53	3	7	9	-52	5	8	10	-54	3	6	8	-53	1	7	9	6	6	5	5
30,000	-44.5	-54	-9	-6	-5	-50	-6	-3	-2	-42	2	5	6	-47	-2	0	2	-48	-4	-0	2	4	4	3	4
20,000	-21.2	-34	-13	-8	-5	-27	-5	-2	-0	-16	5	7	9	-23	-2	2	4	-25	-4	1	3	7	5	4	6
10,000	- 4.6	-20	-15	-10	-7	-11	-7	-3	-1	0	5	7	9	-8	-3	1	1	-10	-5	-0	2	8	5	4	6
CHURCHILL TO WHITEHORSE																									1225 N.MI.
51,000	-56.5	-54	2	6	8	-49	7	10	11	-48	9	11	12	-55	4	6	7	-51	5	8	10	6	4	3	3
40,000	-56.5	-55	2	6	8	-51	5	9	10	-50	7	10	12	-52	4	8	9	-52	4	8	10	6	5	5	5
30,000	-44.5	-55	-10	-7	-6	-52	-7	-5	-1	-44	0	2	3	-49	-5	-2	-1	-50	-6	-2	-1	4	4	3	4
20,000	-21.2	-17	-16	-11	-9	-10	-9	-5	-3	-18	3	5	7	-26	-5	-1	1	-28	-7	-2	0	7	5	4	6
10,000	- 4.6	-23	-18	-14	-11	-15	-10	-7	-5	-2	2	5	6	-11	-7	-3	-1	-13	-8	-4	-1	7	5	4	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
CLEVELAND TO MEXICO CITY																						1585 N.MI.			
55,000	-56.5	-69	-13	-10	-9	-67	-10	-8	-7	-69	-13	-11	-10	-72	-15	-13	-12	-69	-13	-10	-8	3	3	3	3
40,000	-56.5	-57	-0	2	4	-57	-1	2	3	-55	2	3	3	-55	1	3	4	-56	1	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-33	11	13	13	-36	8	10	11	-38	7	9	10	3	2	2	3
20,000	-21.2	-15	6	9	10	-12	9	11	12	-7	14	15	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	1	5	8	9	4	9	11	13	9	14	15	15	7	12	13	14	5	10	12	13	4	4	2	3
CLEVELAND TO MONTREAL																						428 N.MI.			
55,000	-56.5	-59	-2	1	2	-57	-0	3	4	-59	-3	0	2	-61	-4	-3	0	-59	-2	1	2	4	4	4	4
40,000	-56.5	-55	1	5	7	-55	1	5	8	-53	3	5	7	-55	2	5	7	-55	2	5	6	6	6	3	5
30,000	-44.5	-49	-4	-2	-0	-47	-2	0	1	-37	7	10	11	-42	2	5	6	-44	1	4	6	4	4	4	4
20,000	-21.2	-26	-5	-3	1	-22	-1	2	4	-11	10	12	14	-16	5	8	10	-19	2	6	8	5	5	3	5
10,000	- 4.6	-13	-8	-4	-1	-8	-3	1	3	4	9	11	12	-1	4	8	10	-4	0	4	6	7	5	3	5
CLEVELAND TO TORONTO																						168 N.MI.			
55,000	-56.5	-59	-3	-0	1	-58	-1	2	3	-60	-4	-1	0	-62	-5	-2	-1	-60	-3	-0	2	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	1	5	7	-54	3	5	6	-55	1	5	6	-55	3	4	6	6	6	3	5
30,000	-44.5	-48	-4	-1	-0	-46	-2	0	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	3	3	4
20,000	-21.2	-25	-4	-0	2	-21	0	3	5	-10	11	13	14	-15	6	9	11	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-6	-2	2	4	5	9	11	12	0	5	8	10	-3	1	5	7	6	5	3	5
CLEVELAND TO VANCOUVER																						1781 N.MI.			
55,000	-56.5	-58	-1	2	4	-56	1	3	5	-57	-1	2	3	-60	-3	-1	3	-58	-1	2	4	5	4	3	4
40,000	-56.5	-55	1	5	8	-56	1	5	7	-54	3	5	7	-56	1	4	6	-55	1	4	6	6	6	4	5
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	0	-38	6	9	10	-44	1	4	5	-45	-1	3	5	4	3	3	4
20,000	-21.2	-28	-7	-3	-0	-22	-1	2	4	-11	10	12	13	-18	3	6	8	-20	1	5	7	6	5	3	5
10,000	- 4.6	-14	-9	-4	-2	-7	-2	2	4	5	10	12	14	-2	3	7	9	-4	0	5	7	7	5	4	6
COCOS IS. TO COLOMBO																						1524 N.MI.			
55,000	-56.5	-82	-25	-23	-22	-78	-21	-19	-18	-78	-21	-19	-18	-80	-23	-21	-20	-79	-23	-21	-19	3	3	3	3
40,000	-56.5	-54	2	4	5	-52	5	6	7	-54	2	4	4	-54	2	4	4	-54	3	5	6	3	2	2	2
30,000	-44.5	-31	14	15	16	-31	14	15	16	-31	13	15	15	-32	12	13	14	-31	13	15	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-6	16	17	17	-5	16	17	17	-6	15	16	17	-5	16	17	17	3	1	1	2
10,000	- 4.6	10	14	15	16	9	14	15	15	8	13	14	14	9	14	15	15	9	14	15	15	1	1	2	1
COCOS IS. TO DARWIN																						1094 N.MI.			
55,000	-56.5	-82	-26	-24	-22	-79	-22	-20	-19	-77	-21	-19	-18	-78	-22	-20	-19	-79	-23	-20	-19	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	4	5	6	-54	3	4	5	-54	2	4	5	-54	3	5	5	2	2	2	3
30,000	-44.5	-31	14	15	16	-12	13	14	14	-33	12	14	14	-33	12	13	14	-32	12	14	15	2	2	2	2
20,000	-21.2	-5	16	17	17	-6	15	16	17	-6	15	16	16	-7	15	16	16	-6	15	16	17	1	3	2	2
10,000	- 4.6	10	14	15	16	9	14	15	16	8	12	14	14	9	13	14	15	9	13	15	15	1	2	2	2
COCOS IS. TO MAURITIUS																						2302 N.MI.			
55,000	-56.5	-77	-21	-18	-17	-75	-19	-16	-15	-72	-15	-13	-12	-74	-18	-16	-14	-75	-18	-15	-14	4	4	3	3
40,000	-56.5	-53	3	5	6	-53	4	5	6	-52	4	6	7	-53	3	5	6	-53	4	6	7	3	3	3	3
30,000	-44.5	-31	14	15	16	-33	11	13	14	-33	11	13	14	-34	11	12	13	-33	12	14	15	2	2	3	2
20,000	-21.2	-5	16	17	17	-8	14	15	15	-7	15	16	17	-8	14	15	15	-7	14	16	16	3	2	2	2
10,000	- 4.6	9	14	15	15	8	13	14	15	6	11	12	13	8	12	14	14	8	12	14	14	1	2	2	2
COCOS IS. TO PERTH																						1507 N.MI.			
55,000	-56.5	-75	-19	-16	-15	-73	-16	-14	-13	-71	-15	-12	-11	-71	-15	-12	-11	-72	-16	-13	-12	4	3	3	3
40,000	-56.5	-54	2	5	6	-54	2	4	5	-53	4	6	7	-53	3	5	6	-54	3	5	6	3	3	3	3
30,000	-44.5	-33	12	13	14	-36	9	10	11	-36	9	11	12	-37	8	10	11	-35	9	11	13	2	2	3	3
20,000	-21.2	-7	14	15	16	-10	11	13	13	-11	10	12	12	-11	11	12	13	-10	13	13	14	2	2	3	3
10,000	- 4.6	9	13	14	15	6	11	12	13	4	8	10	11	5	9	11	12	4	10	12	13	2	2	3	3
COCOS IS. TO SINGAPORE																						918 N.MI.			
55,000	-56.5	-82	-26	-24	-23	-79	-22	-21	-20	-78	-21	-19	-18	-80	-23	-21	-20	-80	-23	-21	-20	3	3	3	3
40,000	-56.5	-54	2	4	5	-52	5	6	7	-54	2	3	4	-54	2	3	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-31	14	15	15	-31	14	15	15	-32	13	14	15	-32	12	13	14	-31	13	14	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-6	16	16	17	-6	16	16	17	-6	15	16	17	-5	16	17	17	1	1	1	1
10,000	- 4.6	10	14	15	15	9	14	15	15	8	13	14	14	9	14	15	15	9	14	15	15	1	1	1	1
COLD BAY TO SEATTLE																						1560 N.MI.			
55,000	-56.5	-52	4	8	10	-52	5	8	10	-50	6	9	10	-53	3	6	7	-52	5	7	9	5	5	3	4
40,000	-56.5	-54	3	7	10	-53	4	8	10	-51	5	9	10	-53	4	7	9	-53	4	8	10	7	6	5	5
30,000	-44.5	-49	-5	-2	-1	-49	-4	-2	-0	-42	2	5	6	-46	-2	1	3	-47	-2	1	3	4	5	4	5
20,000	-21.2	-28	-6	-2	-0	-27	-5	-2	-0	-15	6	9	10	-23	-2	1	3	-23	-2	2	3	6	5	4	5
10,000	- 4.6	-12	-7	-3	-1	-11	-7	-4	-2	-0	4	7	8	-7	-3	0	2	-8	-3	1	3	6	4	3	5
COLD BAY TO TOKYO																						2602 N.MI.			
55,000	-56.5	-49	8	12	13	-52	5	8	9	-53	3	6	8	-54	3	6	7	-52	5	9	11	5	4	4	4
40,000	-56.5	-50	6	10	12	-52	5	9	11	-50	7	10	12	-52	5	8	10	-51	6	9	11	5	6	5	5
30,000	-44.5	-49	-5	-2	-0	-47	-3	0	2	-36	9	12	13	-44	1	4	5	-44	0	5	8	4	4	5	5
20,000	-21.2	-29	-7	-4	-2	-26	-3	0	2	-11	10	13	14	-22	-0	3	5	-21	-0	4	7	5	5	4	5
10,000	- 4.6	-14	-10	-6	-4	-11	-6	-3	-1	3	8	10	11	-7	-2	1	2	-7	-2	2	4	5	5	3	4
COLD BAY TO VANCOUVER																						1478 N.MI.			
55,000	-56.5	-52	5	9	11	-51	5	8	10	-50	7	9	10	-53	4	6	8	-51	5	8	9	6	4	5	5
40,000	-56.5	-53	3	8	10	-52	4	8	10	-51	5	9	11	-52	4	8	9	-52	4	8	10	6	6	5	5
30,000	-44.5	-50	-5	-3	-1	-49	-4	-2	-1	-43	2	5	6	-46	-2	1	2	-47	-2	1	3	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-27	-6	-2	-0	-15	6	8	10	-24	-3	3	3	-24	-2	2	4	6	5	4	5
10,000	- 4.6	-12	-8	-4	-2	-12	-7	-4	-3	-0	4	6	8	-8	-3	-0	1	-8	-4	0	2	4	4	3	5
COLD BAY TO WHITEHORSE																						932 N.MI.			
55,000	-56.5	-50	7	11	13	-50	7	9	11	-48	8	10	12	-51	6	8	10	-50	7	9	11	6	5	3	4
40,000	-56.5	-53	4	8	11	-51	6	9	11	-50	6	10	12	-52	5	8	10	-51	5	9	11	7	5	5	5
30,000	-44.5	-51	-6	-4	-2	-51	-6	-4	-2	-44	1	4	5	-49	-5	-2	-0	-49	-4	-0	1	6	4	4	5
20,000	-21.2	-30	-9	-5	-2	-29	-8	-5	-3	-17	4	7	9	-26	-5	-2	0	-26	-4	0	3	6	5	4	5
10,000	- 4.6	-15	-10	-6	-4	-14	-9	-7	-5	-2	3	5	6	-10	-6	-3	-2	-10	-6	-2	0	6	4	3	4
COLOGNE TO COPENHAGEN																						367 N.MI.			
55,000	-56.5	-57	-0	3	5	-53	3	6	7	-49	8	10	11	-57	-1	2	3	-54	2	6	8	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	2	6	8	-51	6	10	11	-56	0	4	5	-55	2	6	8	6	4	5	5
30,000	-44.5	-51	-7	-4	-3	-49	-4	-2	-0	-41	3	6	7	-45	-0	3	4	-46	-2	2	3	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-26	-2	1	2	-15	6	9	10	-19	2	5	7	-22	-0	3	5	6	5	5	5
10,000	- 4.6	-15	-8	-4	-2	-8	-3	0	2	1	5	7	9	-5	-0	5	5	-6	-1	2	4	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
COLOGNE TO DUSSELDORF																									29 N.MI.
55,000	-56.5	-57	-0	3	5	-54	3	5	7	-50	6	9	10	-58	-1	2	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	5	9	11	-56	0	3	5	-55	1	5	8	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	1	-41	4	6	8	-44	0	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-23	-1	2	3	-14	7	9	10	-18	3	6	8	-21	1	4	6	6	5	3	5
10,000	- 4.6	-11	-6	-3	-1	-6	-2	1	3	1	6	8	9	-3	2	5	6	-5	-0	3	5	6	4	3	5
COLOGNE TO FRANKFURT																									74 N.MI.
55,000	-56.5	-56	0	3	5	-54	3	5	7	-51	6	8	10	-58	-1	1	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	5	8	10	-56	0	3	5	-55	1	5	7	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	1	-41	4	6	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-22	-1	2	3	-14	7	9	11	-16	3	6	8	-20	1	4	6	6	4	3	5
10,000	- 4.6	-11	-7	-3	-1	-6	-2	1	3	2	6	9	10	-3	2	5	7	-5	0	4	5	6	6	3	5
COLOGNE TO GENEVA																									281 N.MI.
55,000	-56.5	-57	-0	3	5	-54	2	5	6	-52	5	7	6	-58	-2	1	2	-55	1	4	6	5	6	4	4
40,000	-56.5	-58	-2	2	4	-57	-0	4	6	-52	4	8	9	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-40	5	7	8	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-13	8	10	11	-17	6	7	8	-20	2	5	7	5	4	3	4
10,000	- 4.6	-10	-5	-2	0	-6	-1	2	3	3	7	9	11	-2	3	6	7	-4	1	4	6	5	4	3	4
COLOGNE TO GLASGOW																									505 N.MI.
55,000	-56.5	-57	-1	2	4	-53	3	6	7	-49	8	10	11	-57	-1	2	4	-54	2	6	8	5	4	4	4
40,000	-56.5	-58	-2	3	5	-55	2	7	9	-50	6	10	12	-56	0	4	6	-55	2	7	9	6	7	6	5
30,000	-44.5	-51	-6	-3	-2	-48	-3	-1	1	-41	3	6	7	-45	-0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-23	-2	1	3	-15	6	8	10	-19	2	5	7	-21	0	4	6	6	5	3	5
10,000	- 4.6	-10	-6	-2	-0	-7	-3	0	2	0	5	7	8	-3	1	4	6	-5	-1	3	5	5	4	3	5
COLOGNE TO HAMBURG																									196 N.MI.
55,000	-56.5	-57	-0	3	5	-53	3	6	7	-49	7	9	11	-57	-1	2	3	-54	2	6	7	5	6	3	4
40,000	-56.5	-58	-2	2	4	-55	1	6	8	-51	6	9	11	-56	0	3	5	-55	1	6	8	6	6	5	5
30,000	-44.5	-51	-7	-4	-2	-48	-4	-1	0	-41	4	6	7	-44	0	3	6	-46	-2	2	4	4	6	4	4
20,000	-21.2	-28	-7	-3	-0	-23	-2	1	3	-15	7	9	10	-19	2	6	8	-21	0	4	6	6	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-7	-2	1	2	1	6	8	9	-4	1	4	6	-6	-1	3	5	6	5	3	5
COLOGNE TO HELSINKI																									824 N.MI.
55,000	-56.5	-57	-1	3	4	-53	4	6	8	-48	9	11	12	-56	0	3	4	-53	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	2	7	9	-50	6	10	12	-56	1	4	6	-55	2	6	9	5	6	5	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-42	3	6	7	-45	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-30	-9	-5	-2	-25	-4	-0	2	-15	6	8	9	-20	1	5	6	-23	-1	3	5	6	5	3	5
10,000	- 4.6	-14	-10	-6	-3	-9	-4	-1	1	0	5	7	8	-6	-1	2	4	-7	-3	1	3	6	5	3	5
COLOGNE TO ISTANBUL																									1076 N.MI.
55,000	-56.5	-56	1	4	5	-55	2	4	6	-53	3	6	7	-59	-2	0	2	-56	1	4	5	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	0	4	6	-50	6	9	11	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-47	-3	-0	1	-19	6	8	10	-43	2	4	5	-45	-0	3	5	4	4	4	4
20,000	-21.2	-27	-5	-2	-0	-22	-0	3	4	-12	9	11	12	-17	4	7	8	-19	2	5	7	5	4	3	4
10,000	- 4.6	-11	-7	-3	-2	-6	-1	2	4	3	8	10	11	-2	3	6	7	-4	1	4	6	5	4	3	4
COLOGNE TO KEFLAVIK																									1223 N.MI.
55,000	-56.5	-58	-1	2	4	-51	5	8	9	-47	9	12	13	-56	1	4	5	-53	4	7	9	5	4	3	4
40,000	-56.5	-57	-1	4	6	-52	4	9	12	-49	8	12	14	-55	2	6	8	-53	3	8	11	6	7	6	6
30,000	-44.5	-52	-7	-4	-3	-48	-4	-1	1	-43	2	4	6	-46	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-26	-4	-1	1	-17	4	7	8	-21	-0	4	6	-21	-2	2	4	6	5	4	6
10,000	- 4.6	-12	-7	-4	-2	-10	-5	-2	-0	-2	3	5	6	-4	-1	2	4	-7	-3	1	3	5	5	3	5
COLOGNE TO LISBON																									909 N.MI.
55,000	-56.5	-58	-2	2	3	-54	1	3	5	-55	1	4	5	-60	-3	-1	1	-57	-1	2	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-53	3	6	8	-56	0	3	5	-56	0	4	6	6	6	4	4
30,000	-44.5	-48	-4	-1	-0	-46	-2	1	2	-39	6	8	10	-42	2	5	6	-44	1	4	6	4	4	3	4
20,000	-21.2	-23	-2	1	3	-20	1	4	5	-12	9	11	12	-16	5	8	9	-18	3	7	8	5	4	3	4
10,000	- 4.6	-7	-2	1	1	-3	1	4	5	5	9	11	12	-0	4	7	8	-1	3	7	8	5	4	3	4
COLOGNE TO LONDON																									288 N.MI.
55,000	-56.5	-57	-1	3	5	-54	3	5	7	-50	6	9	10	-58	-1	2	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-55	1	5	8	-51	5	9	11	-56	0	4	5	-55	1	6	8	6	7	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	1	-41	4	6	8	-44	0	1	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-14	7	9	10	-18	3	6	8	-20	1	6	6	6	5	1	5
10,000	- 4.6	-10	-5	-2	0	-6	-2	1	3	1	6	8	9	-1	2	5	7	-4	0	4	6	5	4	3	5
COLOGNE TO MADRID																									767 N.MI.
55,000	-56.5	-58	-1	2	4	-56	1	4	5	-55	2	4	6	-59	-3	-0	1	-57	-0	3	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-53	4	7	8	-56	0	3	5	-56	0	4	6	6	6	5	4
30,000	-44.5	-49	-4	-2	-0	-47	-2	1	2	-39	6	8	9	-43	2	5	6	-44	0	4	6	4	4	1	4
20,000	-21.2	-24	-3	1	2	-21	1	1	5	-12	9	11	12	-16	5	8	9	-18	3	6	8	5	4	1	4
10,000	- 4.6	-7	-3	1	2	-4	1	3	5	4	9	11	12	-1	4	7	8	-2	3	6	8	5	4	3	4
COLOGNE TO MOSCOW																									1115 N.MI.
55,000	-56.5	-56	0	4	5	-53	4	6	8	-48	9	11	12	-56	0	1	4	-53	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-55	2	6	8	-50	6	10	11	-56	1	4	6	-55	2	6	8	5	6	5	5
30,000	-44.5	-53	-8	-5	-4	-49	-4	-1	0	-41	4	6	8	-45	-0	2	4	-47	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-24	-3	1	3	-15	7	9	10	-20	1	5	7	-22	-1	3	5	6	5	3	5
10,000	- 4.6	-14	-10	-6	-4	-8	-4	-0	2	0	5	7	8	-6	-1	3	4	-7	-2	1	3	6	5	3	5
COLOGNE TO MUNICH																									261 N.MI.
55,000	-56.5	-56	0	4	5	-54	2	5	6	-51	5	8	9	-58	-1	1	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	0	4	6	-52	5	8	10	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	1	-40	4	7	8	-44	1	4	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-22	-1	2	3	-14	8	10	11	-18	3	6	8	-20	1	5	6	6	4	3	5
10,000	- 4.6	-11	-7	-3	-1	-6	-2	1	3	2	7	9	10	-2	2	5	7	-4	0	4	6	6	4	3	5
COLOGNE TO NEW YORK																									3270 N.MI.
55,000	-56.5	-57	-0	3	4	-53	3	6	7	-52	4	7	8	-57	-0	3	4	-55	2	5	7	4	4	4	4
40,000	-56.5	-55	2	6	8	-54	3	7	9	-52	5	8	10	-54	2	6	8	-54	3	7	9	6	7	5	5
30,000	-44.5	-49	-5	-2	-0	-47	-3	-0	1	-41	4	7	8	-44	1	3	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-1	1	-24	-3	1	3	-14	7	10	11	-19	2	6	8	-21	0	4	6	6	5	4	5
10,000	- 4.6	-15	-8	-4	-2	-8	-4	-0	2	1	5	8	9	-4	1	4	6	-6	-1	2	4	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50*	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
COLOGNE TO OSLO																						555 N.MI.			
55,000	-56.5	-57	-1	2	4	-53	4	6	8	-48	8	11	12	-57	-0	2	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	2	4	-54	3	7	9	-50	7	10	12	-56	0	4	6	-55	2	7	9	6	6	5	5
30,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-0	-47	3	5	7	-45	-1	2	3	-47	-2	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-24	-3	0	2	-15	6	8	9	-20	1	5	7	-22	-1	3	5	6	5	3	5
10,000	- 4.6	-13	-8	-5	-2	-8	-4	-1	1	0	5	7	8	-5	-1	3	4	-7	-2	2	3	6	5	3	5
COLOGNE TO PARIS																						214 N.MI.			
55,000	-56.5	-57	-0	3	5	-54	2	5	6	-51	5	8	9	-58	-1	1	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-52	5	8	10	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-0	1	-40	4	7	8	-44	1	3	5	-45	-1	3	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-14	7	10	11	-19	3	6	8	-20	1	5	7	6	5	3	5
10,000	- 4.6	-10	-5	-2	0	-6	-1	2	3	2	7	9	10	-2	2	5	7	-4	1	4	6	6	4	3	4
COLOGNE TO PRAGUE																						276 N.MI.			
55,000	-56.5	-56	0	4	5	-54	3	5	7	-50	6	9	10	-58	-1	1	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	5	9	10	-56	0	3	5	-55	1	5	7	5	6	5	5
30,000	-44.5	-51	-7	-4	-2	-48	-4	-1	0	-41	4	6	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-23	-1	2	3	-14	7	9	11	-18	3	6	8	-21	1	4	6	6	4	3	5
10,000	- 4.6	-12	-7	-3	-1	-7	-2	1	3	2	6	8	10	-3	2	5	7	-5	-0	3	5	6	4	3	5
COLOGNE TO ROME																						589 N.MI.			
55,000	-56.5	-56	0	4	5	-55	2	4	6	-54	3	5	7	-59	-2	0	1	-56	1	3	5	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-52	4	7	9	-56	0	3	4	-56	1	4	6	5	5	4	4
30,000	-44.5	-50	-6	-3	-1	-47	-3	0	1	-39	5	8	9	-43	2	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-21	-0	3	4	-12	9	11	12	-17	4	7	9	-19	2	6	7	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-5	-1	2	4	4	8	10	12	-1	3	6	8	-3	2	5	7	5	4	3	4
COLOGNE TO SANTA MARIA																						1608 N.MI.			
55,000	-56.5	-59	-2	1	2	-56	0	3	5	-56	1	3	5	-60	-4	-1	0	-58	-1	2	3	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	3	5	-53	3	6	8	-56	0	3	5	-56	0	4	6	6	6	5	5
30,000	-44.5	-48	-3	-1	1	-45	-1	2	3	-38	6	8	10	-42	3	5	5	-43	1	4	6	4	4	3	4
20,000	-21.2	-22	-1	2	4	-20	2	4	6	-12	9	11	12	-15	6	8	10	-17	4	7	9	5	4	3	4
10,000	- 4.6	-6	-1	2	4	-3	2	4	6	4	9	11	12	0	5	7	9	-1	3	6	8	5	4	3	4
COLOGNE TO SHANNON																						605 N.MI.			
55,000	-56.5	-57	-1	2	4	-54	3	6	7	-50	6	9	10	-57	-1	2	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	3	5	-55	1	6	8	-51	6	9	11	-56	0	4	6	-55	1	6	8	6	7	5	5
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-41	4	6	8	-44	0	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-23	-1	2	4	-15	7	9	10	-19	3	6	8	-20	1	4	6	6	5	3	5
10,000	- 4.6	-10	-5	-1	0	-6	-2	1	3	1	6	8	9	-3	2	5	6	-4	0	4	5	5	4	3	4
COLOGNE TO STOCKHOLM																						641 N.MI.			
55,000	-56.5	-57	-1	3	4	-53	4	6	8	-48	9	11	12	-57	-0	2	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	4	-54	2	7	9	-50	6	10	12	-56	0	4	6	-55	2	6	9	6	6	5	5
30,000	-44.5	-52	-8	-5	-3	-49	-5	-2	-1	-47	3	6	7	-45	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-25	-3	-0	2	-15	6	8	9	-20	1	5	7	-22	-1	3	5	6	5	3	5
10,000	- 4.6	-14	-9	-5	-3	-9	-4	-1	1	0	5	7	8	-6	-1	2	4	-7	-2	1	3	6	5	3	5
COLOGNE TO TEHERAN																						2094 N.MI.			
55,000	-56.5	-57	-0	3	5	-55	1	4	5	-55	1	3	5	-59	-2	0	2	-57	-0	3	4	5	4	3	4
40,000	-56.5	-57	-1	2	4	-55	1	4	6	-49	8	10	12	-56	0	3	4	-54	2	6	8	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-46	-2	1	2	-16	9	11	13	-43	2	4	6	-44	1	5	7	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-20	1	4	6	-10	11	13	14	-17	4	7	9	-18	3	7	9	5	5	3	4
10,000	- 4.6	-11	-6	-3	-1	-4	1	4	5	5	10	12	13	-1	4	7	8	-3	2	6	8	5	5	3	4
COLOGNE TO TEL AVIV-JAFFA																						1667 N.MI.			
55,000	-56.5	-58	-1	2	3	-56	0	3	4	-59	-2	0	1	-60	-4	-1	-0	-58	-2	1	2	4	3	3	4
40,000	-56.5	-57	-0	3	5	-56	0	3	5	-49	7	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-50	-5	-3	-2	-46	-2	1	2	-35	9	11	13	-42	3	5	6	-43	1	5	7	4	4	3	3
20,000	-21.2	-25	-3	-0	1	-20	1	4	5	-10	11	13	14	-16	5	8	9	-18	4	7	9	5	4	3	3
10,000	- 4.6	-9	-5	-2	0	-4	1	4	5	5	10	12	13	0	5	8	9	-2	3	6	8	5	4	3	4
COLOGNE TO VIENNA																						402 N.MI.			
55,000	-56.5	-56	1	4	6	-54	3	5	6	-51	6	8	9	-58	-1	1	3	-55	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	1	4	6	-51	5	8	10	-56	0	3	5	-56	1	5	7	5	6	5	5
30,000	-44.5	-51	-7	-4	-2	-48	-3	-1	1	-40	4	7	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	3	-14	8	10	11	-18	3	6	8	-20	1	4	6	6	4	3	5
10,000	- 4.6	-12	-7	-3	-1	-6	-2	1	3	2	7	9	10	-3	2	5	7	-5	-0	4	5	6	4	3	5
COLOGNE TO WARSAW																						521 N.MI.			
55,000	-56.5	-56	0	4	5	-53	3	6	7	-49	7	9	11	-57	-1	2	3	-54	2	6	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	5	7	-51	6	9	11	-56	0	3	5	-55	1	5	8	5	6	5	5
30,000	-44.5	-52	-7	-4	-3	-49	-4	-1	-0	-41	4	6	8	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-14	7	9	10	-19	2	6	8	-21	0	4	6	6	5	3	5
10,000	- 4.6	-13	-8	-4	-2	-7	-3	0	2	1	6	8	9	-4	1	4	6	-6	-1	2	4	6	5	3	5
COLOGNE TO ZURICH																						212 N.MI.			
55,000	-56.5	-56	0	4	5	-54	2	5	6	-51	5	7	9	-58	-2	1	2	-55	1	5	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	0	4	6	-52	5	8	10	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-0	1	-40	4	7	8	-44	1	4	5	-45	-1	1	4	4	4	4	4
20,000	-21.2	-27	-5	-2	0	-22	-1	2	4	-14	8	10	11	-18	4	7	8	-20	1	5	7	6	4	3	5
10,000	- 4.6	-10	-6	-2	-0	-6	-1	2	3	2	7	9	10	-2	2	6	7	-4	1	4	6	6	4	3	4
COLOMBO TO DAMASCUS																						2900 N.MI.			
55,000	-56.5	-73	-17	-15	-13	-72	-16	-13	-12	-75	-18	-16	-15	-75	-18	-16	-15	-74	-17	-15	-13	3	4	3	3
40,000	-56.5	-55	2	4	6	-53	4	7	8	-48	8	10	11	-54	3	5	6	-52	4	7	8	4	4	3	3
30,000	-44.5	-37	8	10	11	-35	10	12	13	-27	17	19	20	-34	11	13	14	-33	12	14	16	3	3	3	3
20,000	-21.2	-11	10	12	13	-9	12	14	15	-3	18	19	20	-7	14	15	16	-8	13	16	17	3	3	2	2
10,000	- 4.6	5	9	11	12	8	13	14	15	14	18	19	20	8	13	14	15	9	13	15	17	3	2	2	2
COLOMBO TO DHAHRAN																						2060 N.MI.			
55,000	-56.5	-77	-20	-18	-17	-76	-19	-17	-16	-76	-20	-17	-16	-78	-22	-19	-18	-77	-20	-18	-16	3	4	3	3
40,000	-56.5	-55	2	4	5	-52	5	7	8	-49	7	9	10	-54	3	5	6	-52	4	7	8	4	4	3	3
30,000	-44.5	-34	11	13	14	-32	12	14	15	-28	17	18	19	-32	12	14	15	-31	13	15	17	3	3	2	3
20,000	-21.2	-8	13	14	15	-7	15	16	17	-4	17	19	20	-6	15	16	17	-6	15	17	18	2	2	2	2
10,000	- 4.6	7	12	13	14	10	14	16	17	13	17	19	19	9	13	15	15	10	14	16	17	2	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
COLOMBO TO DJAKARTA																									1792 N.MI.
53,000	-56.5	-82	-26	-24	-23	-79	-22	-20	-19	-78	-22	-20	-19	-80	-24	-22	-21	-80	-23	-21	-20	3	3	3	3
40,000	-56.5	-55	2	3	4	-52	5	6	7	-54	2	3	4	-54	2	3	4	-54	3	5	6	2	2	2	2
30,000	-44.5	-31	14	15	15	-30	14	16	16	-31	14	15	15	-32	13	14	14	-31	14	15	16	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	16	17	17	-5	16	17	17	-6	16	17	17	-5	16	17	18	1	1	1	1
10,000	- 4.6	10	14	15	16	10	14	15	16	9	13	14	15	9	14	15	15	9	14	15	16	1	1	1	1
COLOMBO TO HONG KONG																									2191 N.MI.
53,000	-56.5	-79	-22	-20	-19	-76	-20	-17	-16	-77	-21	-18	-17	-78	-21	-19	-18	-77	-21	-18	-17	3	3	4	3
40,000	-56.5	-55	1	3	4	-52	5	6	7	-53	4	5	6	-54	2	4	5	-53	3	5	6	3	2	3	3
30,000	-44.5	-32	13	14	15	-30	14	16	17	-29	15	16	17	-31	14	15	16	-30	14	15	16	2	2	2	
20,000	-21.2	-6	15	16	17	-5	16	18	18	-4	17	18	18	-6	16	17	18	-5	16	17	18	2	2	1	2
10,000	- 4.6	8	13	14	15	10	15	16	17	10	15	16	16	9	14	15	15	9	14	15	16	2	2	1	2
COLOMBO TO ISTANBUL																									3402 N.MI.
53,000	-56.5	-70	-13	-11	-10	-69	-12	-10	-8	-72	-16	-13	-12	-72	-15	-13	-11	-71	-14	-11	-10	4	4	3	4
40,000	-56.5	-55	1	4	6	-53	3	6	8	-48	9	11	12	-54	2	4	6	-53	4	7	9	4	4	3	3
30,000	-44.5	-40	5	7	9	-37	7	10	11	-28	16	18	19	-35	9	11	12	-35	10	13	15	3	3	3	3
20,000	-21.2	-14	7	9	10	-11	10	12	13	-4	17	19	20	-9	12	14	15	-10	12	14	16	3	3	3	2
10,000	- 4.6	2	6	8	9	6	11	13	14	12	17	18	19	7	11	13	14	7	11	14	15	3	3	2	3
COLOMBO TO KARACHI																									1300 N.MI.
53,000	-56.5	-78	-21	-19	-18	-76	-19	-17	-15	-77	-20	-18	-16	-79	-22	-20	-19	-77	-21	-18	-16	3	4	4	3
40,000	-56.5	-55	1	4	5	-52	4	7	8	-50	7	9	10	-54	3	5	7	-53	4	7	8	4	4	4	4
30,000	-44.5	-33	11	14	15	-32	13	15	16	-28	16	18	19	-32	13	14	15	-31	13	16	17	3	3	3	3
20,000	-21.2	-8	14	15	16	-6	15	17	18	-4	17	19	20	-6	15	17	18	-6	15	17	18	2	3	2	2
10,000	- 4.6	8	12	14	14	10	15	16	17	12	16	18	18	9	13	15	15	10	14	16	17	2	2	2	2
COLOMBO TO KUALA LUMPUR																									1323 N.MI.
53,000	-56.5	-82	-26	-24	-23	-78	-22	-20	-19	-78	-22	-20	-19	-80	-24	-22	-21	-80	-23	-21	-20	3	3	3	3
40,000	-56.5	-55	1	3	4	-52	5	6	7	-54	2	4	4	-54	2	3	4	-54	3	5	6	3	2	2	2
30,000	-44.5	-31	14	15	15	-30	15	16	17	-30	14	15	16	-32	13	14	15	-31	14	15	16	2	2	2	2
20,000	-21.2	-5	16	18	18	-5	16	17	18	-5	16	17	18	-6	16	17	17	-5	16	17	18	2	2	1	2
10,000	- 4.6	10	14	15	16	10	15	16	16	9	14	15	15	9	14	15	15	10	14	15	16	1	1	1	1
COLOMBO TO LISBON																									5090 N.MI.
53,000	-56.5	-68	-11	-9	-7	-67	-10	-8	-6	-70	-14	-11	-10	-70	-13	-11	-10	-68	-12	-9	-8	4	4	3	3
40,000	-56.5	-55	1	4	5	-54	2	5	7	-49	8	10	11	-55	2	4	5	-53	3	6	8	4	4	3	3
30,000	-44.5	-41	3	6	7	-39	6	8	9	-30	14	16	17	-37	8	10	11	-37	8	11	13	3	3	3	3
20,000	-21.2	-15	6	8	9	-13	9	11	12	-6	16	17	18	-10	11	13	13	-11	10	13	14	3	3	2	2
10,000	- 4.6	1	5	7	8	4	9	11	12	12	16	18	18	6	10	12	13	6	10	13	14	3	3	2	2
COLOMBO TO MADRAS																									370 N.MI.
53,000	-56.5	-81	-24	-22	-21	-77	-20	-18	-17	-78	-21	-19	-18	-80	-24	-22	-21	-79	-22	-20	-18	3	4	3	3
40,000	-56.5	-56	1	3	4	-52	5	7	8	-53	4	6	7	-54	2	4	5	-54	3	5	7	3	3	3	3
30,000	-44.5	-31	13	15	16	-30	14	16	17	-30	15	16	17	-32	13	14	15	-31	14	16	17	2	3	2	2
20,000	-21.2	-5	16	17	18	-6	15	17	18	-4	17	18	19	-5	16	17	18	-5	16	17	18	2	2	2	2
10,000	- 4.6	10	14	16	16	10	15	16	17	10	14	15	16	9	14	15	15	10	14	16	16	2	2	1	2
COLOMBO TO MADRID																									4856 N.MI.
51,000	-56.5	-67	-11	-8	-7	-66	-10	-8	-6	-70	-13	-11	-10	-70	-13	-11	-10	-68	-12	-9	-8	4	4	3	3
40,000	-56.5	-55	1	4	5	-54	2	5	7	-49	8	10	11	-55	2	4	5	-53	3	6	8	4	4	3	3
30,000	-44.5	-41	3	6	7	-39	6	8	9	-30	14	16	17	-37	8	10	11	-37	8	11	13	3	3	3	3
20,000	-21.2	-16	6	8	9	-13	8	10	12	-6	16	17	18	-10	11	13	13	-11	10	13	14	3	3	3	2
10,000	- 4.6	0	5	7	8	4	9	11	12	11	16	17	18	6	10	12	13	5	10	13	14	3	3	2	3
COLOMBO TO MANILA																									2465 N.MI.
53,000	-56.5	-81	-24	-22	-21	-78	-22	-20	-19	-78	-22	-19	-18	-80	-23	-21	-20	-79	-23	-20	-19	3	3	3	3
40,000	-56.5	-55	1	3	4	-52	5	6	7	-54	2	4	5	-54	2	4	5	-54	3	5	6	2	2	2	2
30,000	-44.5	-31	14	15	15	-30	15	16	17	-30	14	15	16	-31	13	15	15	-30	14	15	16	2	2	1	2
20,000	-21.2	-5	16	17	18	-4	17	18	19	-5	17	17	18	-5	16	17	17	-5	16	18	18	2	2	1	2
10,000	- 4.6	9	14	15	16	10	15	16	16	10	15	15	16	9	14	15	15	10	14	15	16	2	2	1	1
COLOMBO TO MILAN																									4320 N.MI.
53,000	-56.5	-67	-10	-8	-6	-66	-9	-7	-5	-69	-12	-10	-8	-69	-12	-10	-9	-67	-11	-8	-7	4	4	3	4
40,000	-56.5	-56	1	4	5	-54	2	5	7	-48	8	10	12	-55	2	4	5	-53	3	6	8	4	4	3	3
30,000	-44.5	-42	3	5	6	-39	5	8	9	-30	14	16	17	-37	8	10	11	-37	7	11	13	4	3	3	3
20,000	-21.2	-17	4	7	8	-13	8	10	11	-6	16	17	18	-11	10	12	13	-12	10	13	14	3	3	3	3
10,000	- 4.6	-1	4	6	7	4	8	10	12	11	15	17	18	5	10	12	13	5	9	12	14	3	3	2	3
COLOMBO TO NAIROBI																									2618 N.MI.
53,000	-56.5	-80	-24	-22	-21	-78	-22	-19	-18	-77	-20	-18	-17	-79	-23	-21	-20	-79	-22	-20	-19	3	4	3	3
40,000	-56.5	-54	2	4	5	-52	5	7	8	-54	3	4	5	-53	4	5	6	-53	3	6	7	3	3	2	2
30,000	-44.5	-30	14	15	16	-30	15	16	17	-31	14	15	16	-31	13	14	15	-31	14	15	16	2	2	2	2
20,000	-21.2	-4	17	18	18	-5	16	17	18	-5	16	17	18	-6	15	17	17	-5	16	17	18	1	2	1	1
10,000	- 4.6	10	14	15	16	10	14	15	16	9	14	15	16	10	14	15	16	10	14	15	16	1	1	1	1
COLOMBO TO NEW DELHI																									1314 N.MI.
53,000	-56.5	-77	-20	-18	-17	-73	-17	-14	-13	-76	-20	-17	-15	-77	-21	-18	-17	-76	-19	-16	-15	3	4	4	3
40,000	-56.5	-56	1	4	5	-53	4	7	8	-50	6	9	11	-54	3	5	7	-53	3	7	9	4	4	4	4
30,000	-44.5	-34	10	13	14	-33	12	14	16	-28	17	19	20	-32	12	14	16	-32	13	15	17	4	4	3	3
20,000	-21.2	-8	13	14	15	-7	14	16	17	-3	18	19	20	-6	15	17	18	-6	15	17	18	3	3	2	2
10,000	- 4.6	7	11	13	14	10	14	16	17	11	16	17	18	9	13	15	15	9	14	15	16	2	2	2	2
COLOMBO TO RANGOON																									1129 N.MI.
53,000	-56.5	-80	-24	-22	-21	-76	-20	-18	-16	-78	-21	-19	-18	-80	-24	-22	-21	-79	-22	-19	-18	3	3	4	3
40,000	-56.5	-56	1	3	4	-52	5	7	8	-53	3	5	6	-54	2	4	5	-54	3	5	6	3	3	3	3
30,000	-44.5	-31	13	15	15	-30	15	16	17	-29	15	16	17	-31	13	15	15	-31	14	15	16	2	3	2	2
20,000	-21.2	-5	16	17	18	-5	16	18	18	-4	17	18	18	-6	16	17	18	-5	16	17	18	2	2	1	2
10,000	- 4.6	10	14	15	16	10	15	16	17	10	15	15	16	9	14	15	15	10	14	16	16	2	2	1	2
COLOMBO TO ROME																									4116 N.MI.
53,000	-56.5	-68	-12	-9	-8	-67	-11	-8	-7	-71	-14	-12	-11	-70	-14	-12	-10	-69	-13	-10	-8	4	4	3	3
40,000	-56.5	-55	1	4	5	-54	3	6	7	-48	8	10	12	-55	2	4	5	-53	3	7	8	4	4	3	3
30,000	-44.5	-41	4	6	7	-38	6	9	10	-29	15	17	18	-36	8	10	11	-36	8	12	13	3	3	3	3
20,000	-21.2	-15	6	8	9	-12	9	11	12	-5	16	18	19	-10	11	13	14	-11	11	13	15	3	3	3	2
10,000	- 4.6	1	5	7	8	5	9	11	13	12	16	18	18	6	11	12	13	6	10	13	14	3	3	2	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
COLOMBO TO SHARJAH																									1790 N.MI.
53,000	-56.5	-77	-21	-19	-17	-76	-20	-17	-16	-76	-20	-18	-16	-78	-22	-20	-19	-77	-21	-18	-16	3	4	4	3
40,000	-56.5	-55	1	4	5	-52	5	7	8	-50	7	9	10	-54	3	5	6	-52	4	7	8	4	4	3	3
30,000	-44.5	-33	11	13	15	-32	13	15	16	-28	17	18	19	-32	13	14	15	-31	13	16	17	3	3	3	3
20,000	-21.2	-8	13	15	16	-6	15	17	17	-4	17	19	20	-6	15	17	17	-6	15	17	18	2	2	2	2
10,000	- 4.6	8	12	14	14	10	15	16	17	12	17	18	19	9	13	15	15	10	14	16	17	2	2	2	2
COLOMBO TO SINGAPORE																									1478 N.MI.
53,000	-56.5	-82	-26	-24	-23	-78	-22	-20	-19	-78	-22	-20	-19	-80	-24	-22	-21	-80	-23	-21	-20	3	3	3	3
40,000	-56.5	-55	1	3	4	-52	5	6	7	-54	2	3	4	-54	2	3	4	-54	3	5	6	2	2	2	2
30,000	-44.5	-31	14	15	15	-30	15	16	17	-31	14	15	16	-32	13	14	15	-31	14	15	16	2	2	2	2
20,000	-21.2	-5	16	18	18	-5	16	17	18	-5	16	17	18	-6	16	17	17	-5	16	17	18	2	2	1	1
10,000	- 4.6	10	14	15	16	10	15	15	16	9	14	15	15	9	14	15	15	10	14	15	16	1	1	1	1
COLOMBO TO TANANARIVE																									2479 N.MI.
53,000	-56.5	-79	-23	-20	-19	-77	-20	-18	-16	-74	-18	-16	-14	-77	-21	-19	-18	-77	-20	-18	-16	3	4	3	3
40,000	-56.5	-53	3	5	6	-52	5	6	7	-53	3	5	6	-53	3	5	5	-53	4	6	7	3	3	2	2
30,000	-44.5	-30	15	16	16	-31	14	15	16	-32	13	14	15	-33	12	13	14	-31	13	15	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-6	15	16	17	-5	16	17	18	-6	15	16	17	-6	16	17	17	1	1	2	2
10,000	- 4.6	10	14	15	15	10	14	15	16	8	12	14	14	9	14	15	15	9	14	15	15	1	1	2	2
COLOMBO TO TEL AVIV-JAFFA																									2V29 N.MI.
53,000	-56.5	-74	-17	-15	-14	-73	-16	-14	-13	-75	-19	-16	-15	-76	-19	-17	-16	-74	-18	-15	-14	3	4	3	3
40,000	-56.5	-55	2	4	6	-52	4	7	8	-49	8	10	11	-54	3	5	6	-52	4	7	8	4	4	3	3
30,000	-44.5	-36	8	10	12	-34	10	12	14	-27	17	19	20	-33	11	13	14	-33	12	15	16	3	3	2	3
20,000	-21.2	-11	11	12	13	-9	13	14	15	-4	18	19	20	-7	14	15	16	-7	14	16	17	2	3	2	2
10,000	- 4.6	5	10	11	12	8	13	14	15	14	18	19	20	8	13	14	15	9	13	16	17	2	2	2	2
COLOMBO TO TRIPOLI																									4007 N.MI.
53,000	-56.5	-72	-16	-14	-13	-71	-15	-12	-11	-74	-18	-16	-14	-74	-17	-15	-14	-73	-16	-14	-12	3	3	3	3
40,000	-56.5	-55	2	4	6	-53	3	6	7	-49	8	10	10	-54	2	4	5	-53	4	6	8	4	4	3	3
30,000	-44.5	-38	7	9	10	-35	9	11	12	-28	17	18	19	-34	10	12	13	-34	11	13	15	3	3	2	3
20,000	-21.2	-12	9	11	12	-10	12	13	14	-4	17	19	19	-8	13	15	15	-8	13	15	16	3	3	2	2
10,000	- 4.6	4	9	10	11	7	12	13	14	13	18	19	20	8	13	14	15	8	13	15	16	3	3	2	2
COLOMBO TO TUNIS																									4180 N.MI.
53,000	-56.5	-70	-14	-11	-10	-69	-12	-10	-9	-73	-16	-14	-13	-72	-15	-13	-12	-71	-14	-12	-10	3	3	3	3
40,000	-56.5	-55	2	4	6	-54	3	6	7	-48	8	10	11	-54	2	4	5	-53	4	6	8	4	4	3	3
30,000	-44.5	-39	5	7	8	-37	8	10	11	-29	16	18	19	-35	9	11	12	-35	9	13	14	3	3	3	3
20,000	-21.2	-14	8	9	10	-11	10	12	13	-5	17	18	19	-9	12	14	14	-10	12	14	16	3	3	2	2
10,000	- 4.6	2	7	9	10	6	10	12	13	12	17	18	19	7	12	13	14	7	11	14	15	3	3	2	2
COPENHAGEN TO DAKAR																									2819 N.MI.
53,000	-56.5	-64	-7	-4	-3	-62	-5	-3	-2	-63	-6	-4	-3	-65	-9	-6	-5	-63	-7	-4	-3	4	4	3	3
40,000	-56.5	-57	-1	3	5	-56	1	4	6	-52	4	6	8	-55	1	3	5	-55	1	4	6	5	5	3	4
30,000	-44.5	-45	-1	2	3	-42	3	5	6	-36	8	10	11	-39	5	7	9	-41	4	7	8	3	3	3	3
20,000	-21.2	-19	2	5	6	-16	5	7	8	-10	11	13	14	-13	9	11	12	-14	7	9	11	4	3	2	3
10,000	- 4.6	-2	2	5	6	0	5	7	9	8	13	14	15	3	7	9	10	2	7	10	11	4	5	2	3
COPENHAGEN TO DUSSELDORF																									334 N.MI.
53,000	-56.5	-57	-0	3	5	-53	3	6	7	-49	8	10	11	-57	-1	2	3	-54	3	6	8	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	2	6	8	-50	6	10	12	-56	0	4	5	-55	2	6	8	6	6	5	5
30,000	-44.5	-51	-7	-4	-3	-49	-4	-2	-0	-41	3	6	7	-45	-0	2	4	-47	-2	2	3	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-24	-3	1	2	-15	6	9	10	-19	2	5	7	-22	-0	3	5	6	5	3	5
10,000	- 4.6	-13	-8	-4	-2	-8	-3	0	2	1	5	7	9	-5	-0	3	5	-6	-2	2	4	6	5	3	5
COPENHAGEN TO FRANKFURT																									366 N.MI.
53,000	-56.5	-57	-0	3	5	-53	3	6	7	-49	7	10	11	-57	-1	2	3	-54	2	6	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	2	6	8	-51	6	9	11	-56	0	4	5	-55	1	6	8	6	6	5	5
30,000	-44.5	-51	-7	-4	-3	-49	-4	-2	-0	-41	3	6	7	-45	-0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-24	-2	1	2	-15	7	9	10	-19	2	6	7	-21	-0	3	5	6	5	3	5
10,000	- 4.6	-13	-8	-4	-2	-7	-3	0	2	1	5	8	9	-5	0	3	5	-6	-1	2	4	6	5	3	5
COPENHAGEN TO GENEVA																									614 N.MI.
53,000	-56.5	-57	-0	3	5	-54	3	5	7	-50	6	8	10	-58	-1	1	3	-55	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	5	9	10	-56	0	3	5	-55	1	5	7	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-4	-1	0	-41	4	6	8	-44	0	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-23	-2	1	3	-14	7	9	11	-18	3	6	8	-21	1	4	6	6	4	3	5
10,000	- 4.6	-11	-7	-3	-1	-7	-2	1	2	2	6	8	10	-3	1	4	6	-5	-0	3	5	6	4	3	5
COPENHAGEN TO GLASGOW																									570 N.MI.
53,000	-56.5	-58	-1	2	4	-53	4	7	8	-48	9	11	12	-57	-0	3	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-58	-2	2	5	-54	3	8	10	-49	7	11	13	-56	1	4	6	-54	2	7	10	6	7	6	6
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	-0	-42	3	5	6	-45	-1	2	4	-47	-2	1	3	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-24	-3	0	2	-16	5	8	9	-20	1	5	7	-22	-1	3	5	6	5	4	5
10,000	- 4.6	-12	-7	-4	-2	-8	-4	-1	1	-0	4	6	8	-5	-1	3	4	-6	-2	2	3	5	5	3	5
COPENHAGEN TO HAMBURG																									151 N.MI.
53,000	-56.5	-57	-0	3	4	-53	4	6	8	-48	8	11	12	-57	-0	2	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	2	4	-54	2	7	9	-50	6	10	12	-56	0	4	6	-55	2	6	9	6	6	5	5
30,000	-44.5	-52	-7	-5	-3	-49	-5	-2	-1	-42	3	6	7	-45	-1	2	4	-47	-2	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-24	-3	0	2	-15	6	8	10	-20	1	5	7	-22	-1	3	5	6	5	3	5
10,000	- 4.6	-13	-9	-5	-3	-8	-4	-0	1	0	5	7	8	-6	-1	2	4	-7	-2	1	3	6	5	3	5
COPENHAGEN TO HELSINKI																									482 N.MI.
53,000	-56.5	-58	-1	2	4	-52	4	7	8	-47	10	12	13	-56	1	3	5	-53	3	7	9	5	4	3	4
40,000	-56.5	-59	-3	1	3	-53	3	7	9	-50	7	11	12	-55	1	5	7	-54	2	7	9	5	6	5	5
30,000	-44.5	-53	-9	-6	-5	-50	-6	-3	-1	-42	3	5	7	-46	-2	1	3	-48	-3	1	3	4	4	4	4
20,000	-21.2	-31	-10	-6	-4	-26	-5	-1	1	-16	5	8	9	-21	-0	4	6	-23	-2	2	4	6	5	4	6
10,000	- 4.6	-16	-11	-7	-5	-10	-6	-2	-0	-1	4	6	7	-7	-2	1	3	-8	-4	0	2	6	5	3	5
COPENHAGEN TO HONOLULU																									6158 N.MI.
53,000	-56.5	-59	-3	0	2	-51	5	8	9	-49	8	10	10	-55	1	3	4	-54	3	6	7	5	4	3	3
40,000	-56.5	-56	0	4	6	-51	5	9	11	-48	8	11	13	-53	4	7	8	-52	4	8	10	6	5	4	4
30,000	-44.5	-52	-7	-5	-3	-49	-5	-2	-1	-43	2	4	6	-48	-3	-1	1	-48	-3	0	2	4	4	3	4
20,000	-21.2	-30	-9	-5	-3	-28	-7	-4	-2	-17	4	7	8	-25	-4	-1	1	-25	-4	0	2	5	5	4	5
10,000	- 4.6	-15	-10	-7	-5	-13	-9	-6	-4	-2	3	5	6	-10	-5	-3	-1	-10	-5	-2	0	5	5	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	*D50	D75	D95	APRIL 50	D50	D75	D95	JULY 50	D50	D75	D95	OCTOBER 50	D50	D75	D95	ANNUAL 50	D50	D75	D95	STANDARD DEVIATION JAN	APR	JUL	OCT
COPENHAGEN TO ISTANBUL																						1085 N.MI.			
55,000	-56.5	-56	0	4	5	-54	2	5	6	-52	5	7	8	-58	-1	1	2	-55	2	5	6	5	4	3	4
40,000	-56.5	-58	-1	2	4	-55	1	5	6	-50	7	10	11	-56	0	3	5	-55	2	6	8	5	5	4	4
30,000	-44.5	-52	-7	-5	-3	-48	-3	-1	1	-39	5	8	9	-44	1	3	5	-46	-1	3	5	4	4	4	4
20,000	-21.2	-28	-6	-3	-1	-23	-1	2	4	-13	8	10	11	-18	3	6	8	-20	1	5	6	5	5	3	4
10,000	- 4.6	-15	-8	-4	-2	-6	-2	1	3	2	7	9	10	-3	1	5	6	-5	-0	3	5	5	5	3	4
COPENHAGEN TO JOHANNESBURG																						4970 N.MI.			
55,000	-56.5	-70	-13	-11	-10	-69	-12	-10	-9	-68	-12	-10	-9	-70	-13	-11	-10	-69	-13	-10	-9	4	3	3	3
40,000	-56.5	-54	2	5	6	-54	3	6	7	-51	5	7	8	-54	3	5	6	-55	3	6	7	3	4	3	3
30,000	-44.5	-59	6	7	9	-36	8	10	11	-33	11	13	14	-35	9	11	12	-36	8	11	12	2	3	3	3
20,000	-21.2	-13	8	10	11	-11	10	12	15	-7	14	15	16	-10	12	13	14	-10	11	13	14	3	3	2	2
10,000	- 4.6	3	8	9	10	5	9	11	12	8	12	14	14	6	11	13	13	5	10	12	13	3	3	2	2
COPENHAGEN TO KARACHI																						2990 N.MI.			
55,000	-56.5	-59	-3	0	2	-58	-1	1	3	-58	-2	1	2	-61	-4	-1	-0	-59	-2	0	2	4	4	4	4
40,000	-56.5	-57	-0	3	5	-54	2	6	7	-48	9	11	13	-55	1	4	6	-55	3	7	9	5	5	4	4
30,000	-44.5	-49	-4	-1	0	-44	0	3	5	-33	11	14	15	-41	3	6	7	-42	3	7	9	4	4	4	4
20,000	-21.2	-24	-3	0	2	-18	3	6	8	-8	13	15	16	-16	5	8	10	-17	5	9	11	5	5	3	4
10,000	- 4.6	-9	-4	-1	1	-2	3	6	8	8	12	14	15	0	5	8	9	-1	4	8	10	5	4	3	4
COPENHAGEN TO KEFLAVIK																						1157 N.MI.			
55,000	-56.5	-58	-1	2	4	-51	6	8	10	-46	10	12	14	-55	1	4	6	-53	4	7	9	5	4	3	4
40,000	-56.5	-58	-1	3	5	-51	5	10	12	-48	9	12	14	-54	2	6	8	-53	4	8	11	6	7	5	6
30,000	-44.5	-55	-8	-5	-4	-49	-4	-2	-0	-43	1	4	5	-47	-2	1	3	-48	-3	0	2	4	4	4	5
20,000	-21.2	-30	-9	-5	-3	-27	-6	-2	-0	-18	3	6	7	-22	-1	3	5	-24	-3	1	3	6	5	4	4
10,000	- 4.6	-14	-9	-6	-4	-11	-6	-3	-1	-2	2	4	6	-7	-2	1	3	-8	-4	-0	2	5	5	3	5
COPENHAGEN TO LISBON																						1554 N.MI.			
55,000	-56.5	-58	-1	2	4	-55	1	4	6	-53	3	5	7	-59	-2	0	2	-56	0	3	5	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-0	4	6	-52	4	7	9	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-49	-5	-2	-1	-47	-7	0	2	-39	5	8	9	-43	1	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-25	-3	0	2	-21	0	3	4	-13	8	10	12	-17	4	7	9	-19	2	6	7	5	4	3	4
10,000	- 4.6	-8	-4	-0	2	-5	0	3	4	3	8	10	11	-2	1	6	7	-5	2	5	7	5	4	3	4
COPENHAGEN TO LONDON																						528 N.MI.			
55,000	-56.5	-57	-1	3	4	-55	3	6	7	-49	8	10	11	-57	-1	2	4	-54	2	6	8	5	4	3	4
40,000	-56.5	-58	-2	2	4	-54	2	7	9	-50	6	10	12	-56	0	4	6	-55	2	6	9	6	7	4	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-41	3	6	7	-45	-0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-0	-24	-2	1	3	-15	6	8	10	-19	2	5	7	-21	-0	3	5	6	5	3	5
10,000	- 4.6	-11	-7	-3	-1	-7	-3	0	2	0	5	7	8	-5	0	3	5	-6	-1	2	4	6	5	3	5
COPENHAGEN TO LOS ANGELES																						4872 N.MI.			
55,000	-56.5	-58	-2	2	4	-51	5	8	9	-49	7	9	10	-56	1	3	5	-54	3	6	7	6	4	3	4
40,000	-56.5	-56	0	4	7	-52	5	9	11	-49	8	11	12	-53	4	7	9	-53	4	8	10	6	6	4	5
30,000	-44.5	-54	-9	-6	-5	-50	-5	-2	-1	-43	2	4	5	-47	-3	0	2	-48	-4	-0	2	4	4	3	4
20,000	-21.2	-33	-12	-8	-6	-28	-7	-3	-2	-17	4	7	8	-24	-3	1	3	-25	-4	-0	2	6	5	4	5
10,000	- 4.6	-18	-14	-9	-7	-15	-8	-4	-2	-1	4	6	7	-9	-4	-1	1	-10	-6	-1	1	6	6	4	6
COPENHAGEN TO MADRID																						1112 N.MI.			
55,000	-56.5	-58	-1	2	4	-55	2	4	6	-53	4	6	7	-59	-2	0	2	-56	1	4	5	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	0	4	6	-52	4	8	9	-56	0	3	5	-58	1	5	7	6	6	5	5
30,000	-44.5	-50	-5	-3	-1	-47	-3	-0	1	-40	5	7	9	-43	1	4	5	-45	-0	3	5	4	4	4	4
20,000	-21.2	-25	-4	-1	1	-22	-0	3	4	-13	8	10	11	-17	4	7	8	-19	2	5	7	5	4	3	4
10,000	- 4.6	-9	-4	-1	1	-5	-0	2	4	3	8	10	11	-2	3	5	7	-3	1	5	7	5	4	3	4
COPENHAGEN TO MONTREAL																						3131 N.MI.			
55,000	-56.5	-57	-0	3	5	-51	5	8	9	-49	8	10	12	-55	2	5	6	-53	4	7	9	5	4	4	4
40,000	-56.5	-54	2	6	9	-51	5	10	12	-50	7	10	12	-53	4	8	10	-52	4	9	11	6	7	5	6
30,000	-44.5	-51	-7	-4	-2	-48	-4	-1	0	-43	2	5	6	-48	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-31	-10	-5	-3	-27	-5	-2	0	-16	5	7	9	-22	-1	3	5	-24	-3	1	4	7	6	4	6
10,000	- 4.6	-16	-12	-7	-5	-11	-7	-3	-1	-2	3	5	7	-7	-3	1	3	-9	-4	-1	2	6	5	3	5
COPENHAGEN TO MOSCOW																						851 N.MI.			
55,000	-56.5	-57	-0	3	5	-52	4	7	8	-47	10	12	13	-56	1	3	5	-55	4	7	9	5	4	3	4
40,000	-56.5	-59	-3	1	3	-54	2	6	8	-50	7	10	12	-55	1	5	7	-54	2	6	8	5	6	5	5
30,000	-44.5	-51	-9	-6	-5	-49	-5	-2	-0	-41	3	6	8	-46	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-30	-9	-5	-3	-25	-3	0	2	-15	6	9	10	-21	0	4	4	-23	-2	3	5	4	6	4	6
10,000	- 4.6	-16	-11	-7	-5	-9	-5	-1	1	-0	4	6	7	-6	-2	2	4	-8	-3	0	2	6	5	3	5
COPENHAGEN TO MUNICH																						450 N.MI.			
55,000	-56.5	-56	0	3	5	-53	3	6	7	-50	7	9	10	-57	-1	2	3	-54	2	6	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	5	7	-51	6	9	11	-56	0	3	5	-55	1	5	8	5	6	5	5
30,000	-44.5	-51	-7	-4	-3	-49	-4	-1	-0	-41	4	6	8	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-14	7	9	10	-19	2	6	7	-21	0	4	6	6	5	3	5
10,000	- 4.6	-15	-8	-4	-2	-7	-3	0	2	1	6	8	9	-4	0	4	5	-6	-1	3	4	6	5	3	5
COPENHAGEN TO NEW YORK																						3540 N.MI.			
55,000	-56.5	-57	-0	3	4	-52	4	7	8	-50	6	9	10	-56	1	4	5	-54	3	6	8	5	4	4	4
40,000	-56.5	-55	2	6	6	-52	4	9	11	-50	6	9	11	-53	3	7	9	-53	4	8	10	6	7	5	6
30,000	-44.5	-50	-6	-3	-1	-48	-3	-1	1	-42	3	6	7	-45	-0	2	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-3	-1	-25	-4	-1	1	-15	6	8	10	-21	1	4	4	-23	-1	3	5	7	5	4	6
10,000	- 4.6	-15	-10	-6	-3	-10	-5	-2	-0	-0	4	6	8	-6	-1	3	4	-8	-3	1	3	6	5	3	5
COPENHAGEN TO OSLO																						265 N.MI.			
55,000	-56.5	-58	-1	2	4	-52	4	7	8	-47	9	12	13	-56	0	3	4	-53	1	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-53	3	8	10	-49	7	11	13	-56	1	4	6	-54	2	7	9	6	6	6	5
30,000	-44.5	-53	-8	-5	-4	-50	-5	-3	-1	-42	2	5	6	-46	-2	1	3	-48	-3	0	2	4	4	4	4
20,000	-21.2	-30	-9	-5	-3	-25	-4	-1	1	-16	5	7	9	-21	0	4	6	-23	-2	2	4	6	5	4	5
10,000	- 4.6	-14	-10	-6	-4	-9	-5	-2	0	-1	4	6	7	-6	-2	1	3	-8	-3	1	3	6	5	3	5
COPENHAGEN TO PARIS																						546 N.MI.			
55,000	-56.5	-57	-0	3	5	-53	3	6	7	-50	7	9	11	-57	-1	2	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	2	6	8	-51	6	9	11	-56	0	4	5	-55	1	6	8	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-4	-1	0	-41	4	6	7	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-6	-2	-0	-23	-2	1	3	-15	7	9	10	-19	2	6	7	-21	0	4	6	6	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-7	-2	1	2	3	6	8	9	-4	1	4	5	-5	-1	3	5	6	4	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50*	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
COPENHAGEN TO PERTH																									7389 N.MI.
53,000	-56.5	-70	-14	-11	-10	-67	-11	-9	-7	-68	-11	-9	-7	-69	-13	-10	-9	-69	-12	-9	-8	4	4	6	3
40,000	-56.5	-56	1	4	5	-53	3	6	7	-51	6	8	9	-54	2	5	6	-53	3	6	8	6	4	4	4
30,000	-44.5	-39	5	7	8	-38	7	9	10	-33	12	14	15	-37	8	10	11	-37	8	11	12	3	3	3	3
20,000	-21.2	-14	7	9	10	-12	9	11	13	-8	14	15	16	-11	10	12	13	-11	10	12	14	3	3	3	3
10,000	-4.6	1	6	8	9	4	9	11	12	8	12	14	15	4	9	11	12	4	9	11	12	3	3	2	3
COPENHAGEN TO PRAGUE																									336 N.MI.
53,000	-56.5	-56	0	3	5	-51	3	6	7	-49	8	10	11	-57	-1	2	3	-54	3	6	8	5	4	3	6
40,000	-56.5	-58	-2	2	4	-55	2	6	8	-51	6	9	11	-56	0	3	5	-55	1	6	8	5	6	5	5
30,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-0	-41	3	6	7	-45	-0	3	4	-47	-2	2	4	4	4	4	4
20,000	-21.2	-29	-7	-3	-1	-26	-3	1	2	-15	7	9	10	-19	2	5	7	-22	-0	3	5	6	5	3	5
10,000	-4.6	-13	-9	-5	-2	-8	-3	-0	2	1	5	8	9	-5	-0	3	5	-6	-2	2	4	6	5	3	5
COPENHAGEN TO RIO DE JANEIRO																									5497 N.MI.
53,000	-56.5	-70	-13	-11	-9	-69	-12	-10	-9	-67	-10	-8	-7	-70	-13	-11	-10	-69	-12	-10	-8	4	3	3	3
40,000	-56.5	-56	1	4	5	-55	2	5	6	-53	4	6	7	-54	2	4	5	-54	2	6	6	4	6	3	3
30,000	-44.5	-39	5	7	8	-37	7	9	10	-35	10	11	12	-36	9	11	12	-37	8	10	11	3	3	3	3
20,000	-21.2	-13	8	10	11	-11	10	11	12	-9	12	14	15	-10	12	13	14	-11	10	12	13	3	3	2	2
10,000	-4.6	1	8	10	11	4	9	11	12	7	12	13	14	6	11	12	13	5	10	12	13	3	3	2	2
COPENHAGEN TO ROME																									829 N.MI.
53,000	-56.5	-56	0	4	5	-54	2	5	6	-52	5	7	8	-58	-2	1	2	-55	1	6	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	0	4	6	-51	5	8	10	-56	0	3	5	-56	1	5	7	5	6	5	4
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	1	-40	5	7	9	-43	1	4	5	-45	-1	3	5	4	4	4	6
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	3	-13	8	10	11	-18	3	6	8	-20	1	5	7	5	6	3	4
10,000	-4.6	-11	-7	-1	-1	-6	-2	1	3	2	7	9	10	-3	2	5	6	-4	0	4	4	5	4	3	4
COPENHAGEN TO SAN FRANCISCO																									4752 N.MI.
53,000	-56.5	-58	-2	2	4	-50	6	9	10	-48	9	10	11	-55	2	4	5	-53	4	7	8	6	4	3	4
40,000	-56.5	-57	-1	4	6	-51	5	9	11	-48	8	11	13	-53	4	7	9	-52	4	8	10	6	6	5	5
30,000	-44.5	-54	-10	-7	-6	-50	-6	-3	-1	-44	1	3	5	-48	-4	-1	1	-49	-5	-1	1	4	4	3	4
20,000	-21.2	-34	-13	-9	-8	-29	-8	-5	-3	-18	3	6	7	-25	-4	-0	2	-27	-5	-1	1	6	5	4	5
10,000	-4.6	-19	-15	-10	-8	-14	-10	-6	-4	-2	3	5	6	-13	-6	-2	-0	-11	-7	-2	-0	6	5	4	5
COPENHAGEN TO SANTA MARIA																									1809 N.MI.
53,000	-56.5	-59	-2	1	3	-55	1	4	5	-54	3	5	7	-59	-3	-0	1	-57	-0	3	5	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-0	4	6	-52	4	7	9	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-48	-4	-1	-0	-46	-2	1	2	-39	5	8	9	-43	2	4	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-24	-2	1	3	-21	0	3	5	-13	8	10	12	-17	5	8	9	-18	3	6	8	5	4	3	4
10,000	-4.6	-7	-3	1	2	-4	0	3	5	3	7	9	11	-1	3	6	8	-2	2	5	7	5	4	3	4
COPENHAGEN TO SEATTLE																									4214 N.MI.
53,000	-56.5	-58	-2	2	4	-49	8	10	12	-46	11	13	14	-54	3	5	6	-52	5	8	10	6	4	3	3
40,000	-56.5	-57	-1	3	6	-50	6	10	12	-47	9	12	14	-52	4	8	9	-52	5	9	11	6	6	5	5
30,000	-44.5	-56	-11	-8	-7	-51	-7	-4	-2	-45	-0	2	3	-49	-5	-2	-1	-50	-6	-2	-0	4	4	4	4
20,000	-21.2	-35	-14	-10	-8	-31	-10	-7	-5	-20	2	4	6	-27	-6	-2	-0	-28	-7	-3	-0	6	5	4	5
10,000	-4.6	-21	-16	-12	-10	-16	-12	-8	-6	-4	1	3	4	-17	-8	-4	-2	-13	-9	-6	-2	6	5	4	5
COPENHAGEN TO SHANNON																									774 N.MI.
53,000	-56.5	-58	-1	2	4	-53	4	6	8	-48	8	10	12	-57	-0	2	4	-54	3	6	8	5	4	4	4
40,000	-56.5	-58	-2	3	5	-54	2	7	10	-50	7	10	13	-56	1	4	6	-55	2	7	9	6	7	6	6
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	0	-42	3	5	7	-45	-0	2	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-24	-3	1	3	-15	6	8	9	-20	2	5	7	-21	-0	3	5	6	5	3	5
10,000	-4.6	-11	-6	-3	-1	-8	-3	0	2	-0	5	7	8	-4	0	3	5	-6	-1	2	4	5	5	3	5
COPENHAGEN TO SONDRESTROMFJORD																									1850 N.MI.
53,000	-56.5	-58	-2	2	4	-49	7	10	12	-45	11	13	14	-54	3	5	7	-52	5	8	10	6	4	3	4
40,000	-56.5	-57	-1	1	6	-50	7	11	13	-47	10	13	15	-53	4	8	10	-52	5	9	12	6	6	5	6
30,000	-44.5	-54	-9	-7	-5	-50	-5	-2	-0	-44	0	3	4	-48	-3	-0	1	-49	-4	-1	1	4	4	4	5
20,000	-21.2	-32	-11	-7	-5	-29	-8	-4	-2	-19	2	5	6	-25	-3	0	2	-26	-5	-1	1	6	5	4	6
10,000	-4.6	-16	-11	-8	-6	-13	-9	-5	-4	-4	1	3	4	-10	-5	-2	0	-11	-6	-2	-0	5	5	3	5
COPENHAGEN TO STOCKHOLM																									295 N.MI.
53,000	-56.5	-58	-1	2	4	-52	4	7	8	-47	10	12	13	-56	0	3	4	-53	3	7	8	5	4	3	4
40,000	-56.5	-59	-3	1	3	-53	3	7	10	-49	7	11	13	-56	1	4	6	-54	2	7	9	5	6	5	5
30,000	-44.5	-53	-8	-6	-4	-50	-5	-3	-1	-42	2	5	7	-46	-2	1	1	-48	-3	1	3	4	4	4	4
20,000	-21.2	-31	-9	-5	-3	-26	-4	-1	1	-16	5	8	9	-21	0	4	6	-23	-2	2	4	6	5	4	5
10,000	-4.6	-15	-10	-6	-4	-10	-5	-2	0	-1	4	6	7	-7	-2	1	3	-8	-3	0	2	6	5	3	5
COPENHAGEN TO TEHERAN																									1975 N.MI.
53,000	-56.5	-57	-0	3	5	-55	2	4	8	-54	3	5	6	-58	-2	1	2	-56	1	3	5	5	4	3	4
40,000	-56.5	-57	-1	2	4	-55	2	5	7	-48	8	11	12	-56	1	3	5	-54	2	6	8	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-46	-2	1	2	-36	8	11	12	-43	1	4	5	-44	0	4	7	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-21	0	4	5	-11	10	13	14	-18	4	7	8	-19	2	6	8	5	5	3	4
10,000	-4.6	-12	-7	-4	-1	-5	0	3	5	4	9	11	12	-2	2	6	7	-4	1	5	7	6	5	3	5
COPENHAGEN TO TEL AVIV-JAFFA																									1697 N.MI.
53,000	-56.5	-57	-1	2	4	-56	1	3	4	-57	-0	2	3	-60	-3	-1	1	-57	-1	2	3	4	3	3	4
40,000	-56.5	-57	-1	3	4	-56	1	4	6	-49	8	10	12	-56	0	3	4	-54	2	6	8	5	5	4	4
30,000	-44.5	-50	-6	-4	-2	-47	-2	0	2	-36	8	11	12	-42	2	4	6	-44	1	4	7	4	4	4	3
20,000	-21.2	-26	-4	-1	0	-21	0	3	5	-11	10	12	13	-17	5	7	9	-19	3	6	8	5	4	3	4
10,000	-4.6	-11	-6	-3	-1	-5	0	3	5	5	9	11	12	-1	4	6	8	-3	2	5	7	5	4	3	4
COPENHAGEN TO TOKYO																									4699 N.MI.
53,000	-56.5	-55	1	5	7	-50	7	9	11	-47	9	12	13	-53	4	6	7	-51	5	8	10	5	4	4	4
40,000	-56.5	-57	-1	3	5	-50	6	10	12	-48	8	12	14	-52	4	8	10	-52	5	9	11	5	6	5	5
30,000	-44.5	-55	-10	-7	-6	-49	-5	-1	0	-37	7	11	13	-47	-2	1	3	-47	-2	3	6	6	5	5	5
20,000	-21.2	-35	-14	-10	-8	-28	-6	-2	-0	-13	8	11	12	-26	-3	1	1	-25	-4	2	4	5	6	4	6
10,000	-4.6	-22	-17	-13	-11	-13	-9	-5	-3	2	6	9	10	-10	-5	-2	0	-11	-6	-1	2	6	6	4	5
COPENHAGEN TO VIENNA																									473 N.MI.
53,000	-56.5	-56	0	3	5	-53	3	6	7	-49	7	9	11	-57	-1	2	3	-54	2	6	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	5	7	-51	6	9	11	-56	0	3	5	-55	1	6	8	5	6	5	5
30,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-0	-41	4	6	8	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-14	7	9	10	-19	2	6	7	-21	-0	4	6	6	5	3	5
10,000	-4.6	-13	-8	-5	-2	-8	-3	0	2	1	6	8	9	-4	0	4	5	-6	-1	2	4	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50*	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
COPENHAGEN TO WARSAW																									559 N.MI.
50,000	-56.5	-56	0	3	5	-55	4	6	7	-48	8	11	12	-57	-0	2	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	2	6	8	-50	6	10	11	-56	0	4	5	-55	2	6	8	5	6	5	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-41	3	6	7	-45	-0	2	4	-47	-2	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-24	-3	0	2	-15	6	9	10	-20	2	5	7	-22	-1	3	5	6	5	3	5
10,000	- 4.6	-14	-9	-5	-3	-9	-4	-1	1	0	5	7	8	-6	-1	2	4	-7	-2	1	3	6	5	3	5
COPENHAGEN TO ZURICH																									513 N.MI.
50,000	-56.5	-56	0	3	5	-54	3	5	7	-50	7	9	10	-58	-1	2	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	5	7	-51	5	9	11	-56	0	3	5	-55	1	5	8	6	6	5	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-41	4	6	8	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-14	7	9	10	-19	3	6	8	-21	0	4	6	6	4	3	5
10,000	- 4.6	-12	-7	-4	-1	-7	-2	1	2	1	6	8	9	-4	1	4	6	-5	-1	3	5	6	5	3	5
CURITIBA TO RIO DE JANEIRO																									565 N.MI.
50,000	-56.5	-73	-16	-13	-12	-71	-15	-12	-11	-65	-8	-5	-4	-66	-9	-7	-6	-69	-12	-9	-7	4	4	4	4
40,000	-56.5	-52	5	7	9	-53	3	6	8	-52	5	7	8	-54	3	5	7	-55	4	6	8	4	4	3	4
30,000	-44.5	-34	11	13	14	-35	10	12	11	-38	7	9	10	-35	9	11	13	-35	9	12	13	3	3	3	3
20,000	-21.2	-6	15	17	18	-10	12	13	14	-12	9	11	12	-9	12	14	15	-9	12	14	16	3	3	3	3
10,000	- 4.6	9	14	15	16	8	12	14	15	3	8	9	10	7	12	13	14	7	11	13	15	2	3	2	3
DACCA TO KARACHI																									1270 N.MI.
50,000	-56.5	-72	-16	-13	-12	-69	-13	-10	-8	-75	-18	-15	-13	-73	-17	-14	-13	-72	-16	-12	-11	4	4	5	4
40,000	-56.5	-55	2	5	7	-55	3	7	9	-48	8	12	13	-54	3	6	8	-55	4	8	10	5	5	5	5
30,000	-44.5	-37	7	11	12	-35	9	12	14	-26	18	20	22	-32	12	15	16	-33	12	15	17	5	5	3	4
20,000	-21.2	-12	9	12	13	-9	12	15	16	-2	19	21	22	-6	15	17	18	-7	14	17	18	3	4	3	3
10,000	- 4.6	4	9	11	12	9	14	16	17	14	18	20	20	8	12	14	15	9	13	16	17	3	3	2	3
DACCA TO LAHORE																									967 N.MI.
50,000	-56.5	-69	-13	-10	-9	-66	-10	-7	-5	-72	-16	-13	-11	-70	-13	-10	-9	-69	-13	-10	-8	4	4	5	4
40,000	-56.5	-55	2	5	7	-54	3	6	8	-48	8	11	13	-54	3	6	8	-55	4	8	10	5	5	5	5
30,000	-44.5	-39	5	8	10	-38	7	10	12	-26	18	21	22	-34	11	13	15	-34	10	14	16	5	5	4	4
20,000	-21.2	-15	6	9	10	-11	10	13	14	-2	19	21	22	-8	11	15	16	-9	12	15	17	3	4	3	3
10,000	- 4.6	2	6	8	10	7	11	14	15	13	17	19	19	7	11	13	14	7	12	14	16	3	3	2	3
DACCA TO RANGOON																									524 N.MI.
50,000	-56.5	-76	-19	-17	-16	-71	-16	-14	-12	-76	-20	-17	-16	-75	-19	-16	-15	-75	-18	-15	-14	3	4	4	4
40,000	-56.5	-54	1	3	4	-52	5	7	8	-51	5	8	9	-54	2	5	6	-55	3	6	8	3	3	4	4
30,000	-44.5	-35	10	12	13	-12	12	15	16	-27	17	19	19	-32	13	15	16	-31	13	15	16	3	3	2	3
20,000	-21.2	-8	11	15	16	-7	15	16	17	-4	18	19	19	-6	15	17	18	-6	15	17	18	3	3	2	2
10,000	- 4.6	7	12	13	14	9	14	15	16	12	16	17	18	8	13	14	15	9	14	15	16	3	2	1	2
DAKAR TO DUSSELDORF																									2484 N.MI.
50,000	-56.5	-65	-8	-5	-4	-63	-6	-4	-3	-65	-8	-6	-5	-66	-10	-8	-6	-65	-8	-5	-4	4	4	3	3
40,000	-56.5	-57	-0	1	5	-56	0	4	5	-55	4	6	7	-55	1	3	5	-55	1	4	5	5	5	3	3
30,000	-44.5	-44	0	2	3	-41	3	5	6	-36	9	11	12	-38	6	8	9	-40	5	7	9	3	3	3	3
20,000	-21.2	-18	3	6	7	-15	6	8	9	-9	12	14	14	-12	9	11	12	-13	8	10	11	3	3	2	3
10,000	- 4.6	-1	4	6	7	2	6	8	9	9	14	15	16	4	8	10	11	3	8	11	12	3	3	2	3
DAKAR TO FRANKFURT																									2469 N.MI.
50,000	-56.5	-65	-8	-5	-4	-61	-7	-4	-3	-65	-9	-6	-5	-66	-10	-8	-7	-65	-8	-6	-4	4	4	3	3
40,000	-56.5	-57	-0	1	5	-56	0	4	5	-55	4	6	7	-55	1	3	5	-55	1	4	5	5	5	3	3
30,000	-44.5	-44	0	2	3	-41	4	5	6	-36	9	11	12	-38	6	8	9	-40	5	7	9	3	3	3	3
20,000	-21.2	-18	3	6	7	-15	6	8	9	-9	12	14	15	-12	10	11	12	-13	8	10	12	3	3	2	3
10,000	- 4.6	-1	4	6	7	2	6	8	9	9	14	15	16	4	9	10	11	4	8	11	12	3	3	2	3
DAKAR TO FREETOWN																									445 N.MI.
50,000	-56.5	-77	-21	-19	-18	-76	-20	-18	-17	-76	-19	-17	-16	-78	-21	-19	-19	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	5	6	-53	4	4	7	-54	2	3	4	-52	5	6	6	-53	3	5	6	3	4	2	2
30,000	-44.5	-35	10	11	12	-31	13	14	15	-11	12	13	14	-31	13	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-9	13	14	14	-7	14	15	16	-6	15	16	17	-6	15	16	17	-7	14	15	16	1	2	1	1
10,000	- 4.6	8	13	14	14	9	14	15	16	10	15	16	16	10	14	15	16	9	14	15	16	1	2	1	1
DAKAR TO GENEVA																									2231 N.MI.
50,000	-56.5	-66	-9	-6	-5	-64	-8	-5	-4	-67	-10	-8	-7	-67	-11	-9	-8	-66	-10	-7	-5	4	5	3	3
40,000	-56.5	-56	0	3	5	-56	1	4	5	-52	4	6	7	-55	1	3	5	-55	2	4	5	5	5	3	3
30,000	-44.5	-43	1	3	4	-40	4	6	7	-35	9	11	12	-38	7	9	10	-39	5	8	9	3	3	3	1
20,000	-21.2	-17	4	6	8	-14	7	9	10	-8	13	14	15	-11	10	12	13	-13	9	11	12	3	3	2	2
10,000	- 4.6	0	5	7	8	1	7	9	10	10	15	16	17	5	9	11	12	4	9	12	13	3	3	2	2
DAKAR TO GLASGOW																									2541 N.MI.
50,000	-56.5	-64	-8	-5	-3	-62	-6	-3	-2	-63	-7	-4	-3	-65	-9	-7	-6	-64	-7	-5	-1	4	4	3	3
40,000	-56.5	-57	-1	3	5	-56	0	4	6	-52	4	6	8	-55	1	4	5	-55	1	4	6	5	5	3	4
30,000	-44.5	-44	0	2	3	-41	3	5	6	-36	8	10	11	-39	6	8	9	-40	4	7	8	3	3	3	3
20,000	-21.2	-18	3	6	7	-16	5	8	9	-10	11	13	14	-12	9	11	12	-14	7	10	11	4	3	2	3
10,000	- 4.6	-1	4	6	7	1	5	7	9	7	12	14	15	3	8	10	11	3	7	10	11	3	3	2	3
DAKAR TO HAMBURG																									2668 N.MI.
50,000	-56.5	-64	-8	-5	-3	-62	-6	-3	-2	-64	-7	-5	-4	-66	-9	-7	-6	-64	-7	-5	-3	4	4	3	3
40,000	-56.5	-57	-0	3	5	-56	0	4	6	-52	4	6	7	-55	1	3	5	-55	1	4	6	5	5	3	3
30,000	-44.5	-45	-0	2	3	-42	3	5	6	-36	8	10	11	-39	6	8	9	-40	4	7	8	3	3	3	3
20,000	-21.2	-19	3	5	6	-16	5	8	9	-10	12	13	14	-12	9	11	12	-14	7	10	11	4	3	2	3
10,000	- 4.6	-2	3	5	7	1	6	8	9	8	13	15	16	3	8	10	11	3	7	10	12	4	3	2	3
DAKAR TO INCIRLIK																									3106 N.MI.
50,000	-56.5	-67	-11	-8	-7	-66	-9	-7	-6	-71	-14	-12	-11	-69	-12	-10	-9	-68	-12	-9	-8	3	3	3	3
40,000	-56.5	-55	2	4	6	-55	2	5	6	-50	6	8	9	-55	2	4	5	-54	3	5	6	4	4	2	3
30,000	-44.5	-45	1	3	4	-39	6	7	8	-32	13	14	15	-37	7	9	10	-38	7	10	11	3	2	3	2
20,000	-21.2	-16	5	7	8	-13	8	10	11	-6	15	16	17	-10	11	12	13	-12	10	12	13	3	3	2	2
10,000	- 4.6	0	5	7	8	4	8	10	11	12	17	18	19	6	11	12	13	6	10	13	14	3	3	2	2
DAKAR TO ISTANBUL																									2870 N.MI.
50,000	-56.5	-66	-9	-7	-6	-65	-8	-6	-5	-69	-12	-10	-9	-68	-11	-9	-8	-67	-10	-8	-6	4	3	3	3
40,000	-56.5	-55	1	4	5	-55	1	4	6	-50	6	8	8	-55	2	3	4	-54	3	5	6	4	4	2	3
30,000	-44.5	-44	1	2	3	-40	5	6	7	-34	11	13	14	-38	7	9	10	-39	6	9	10	3	3	3	3
20,000	-21.2	-17	4	6	7	-14	7	9	10	-7	14	15	16	-11	10	12	13	-12	9	11	13	3	3	2	2
10,000	- 4.6	-0	4	6	7	3	8	10	11	11	16	17	18	5	10	11	12	5	9	12	14	3	3	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50*	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
DAKAR TO JOHANNESBURG																						3624 N.MI.			
53,000	-56.5	-77	-20	-18	-17	-76	-19	-17	-16	-72	-16	-14	-13	-74	-18	-16	-15	-75	-18	-16	-14	3	3	3	3
40,000	-56.5	-53	3	5	6	-52	4	7	8	-53	4	5	6	-52	4	6	7	-53	4	6	7	3	3	2	2
30,000	-44.5	-52	12	14	14	-51	13	14	15	-53	11	13	13	-52	12	14	15	-52	12	14	15	2	2	2	2
20,000	-21.2	-6	15	16	17	-6	15	16	17	-7	14	16	16	-6	15	16	16	-6	15	16	16	1	2	2	2
10,000	-4.6	9	14	15	16	9	14	15	16	7	11	13	13	10	14	16	16	9	13	15	16	2	2	2	2
DAKAR TO KANO																						1525 N.MI.			
53,000	-56.5	-76	-20	-18	-17	-76	-19	-17	-16	-76	-20	-18	-17	-77	-20	-19	-18	-76	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	5	6	-52	4	7	8	-54	3	4	4	-52	5	6	7	-53	4	5	6	3	3	2	2
30,000	-44.5	-56	9	10	11	-52	13	14	15	-52	12	14	14	-52	13	14	15	-53	12	13	14	2	2	2	2
20,000	-21.2	-9	12	13	13	-7	14	15	16	-5	16	17	17	-6	15	16	17	-7	14	15	16	1	2	1	1
10,000	-4.6	8	13	14	14	10	14	15	16	12	16	17	18	10	14	15	16	10	14	16	16	1	2	1	1
DAKAR TO LAJES																						1528 N.MI.			
53,000	-56.5	-69	-12	-10	-9	-68	-11	-9	-8	-69	-13	-11	-10	-71	-14	-12	-11	-69	-13	-10	-9	4	3	3	3
40,000	-56.5	-57	-0	3	4	-56	0	3	5	-53	3	5	6	-55	2	4	5	-55	1	3	4	4	4	2	3
30,000	-44.5	-61	3	5	6	-58	7	8	9	-55	10	11	12	-56	9	11	12	-57	7	9	10	3	2	2	2
20,000	-21.2	-14	7	9	10	-12	9	11	12	-8	13	15	15	-9	13	14	15	-11	11	12	13	3	3	2	2
10,000	-4.6	3	8	10	11	4	8	10	11	9	13	15	15	7	11	13	13	6	10	12	13	3	3	2	2
DAKAR TO LAS PALMAS																						801 N.MI.			
53,000	-56.5	-72	-16	-14	-13	-72	-15	-13	-12	-73	-17	-15	-14	-74	-18	-16	-15	-73	-16	-14	-13	3	3	3	3
40,000	-56.5	-55	1	4	5	-55	2	4	6	-53	4	5	5	-53	3	5	5	-54	2	4	5	3	4	2	2
30,000	-44.5	-59	6	7	8	-55	9	11	11	-54	11	12	13	-54	10	12	13	-55	9	11	12	2	2	2	2
20,000	-21.2	-12	9	11	11	-10	11	13	13	-7	14	16	16	-7	14	15	16	-9	12	14	15	2	2	2	2
10,000	-4.6	5	10	11	12	6	11	12	13	11	16	17	17	8	13	14	14	8	12	14	15	2	2	2	2
DAKAR TO LEOPOLDVILLE																						2269 N.MI.			
53,000	-56.5	-77	-21	-19	-18	-77	-20	-19	-18	-76	-19	-18	-17	-77	-21	-19	-18	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-54	2	4	4	-52	5	6	7	-53	4	5	6	3	3	2	2
30,000	-44.5	-54	11	12	13	-50	14	15	16	-52	12	13	14	-51	14	15	16	-52	13	14	15	2	2	2	2
20,000	-21.2	-7	14	15	15	-6	16	17	17	-5	16	17	17	-6	16	16	17	-6	15	16	17	1	2	1	1
10,000	-4.6	9	14	14	15	10	14	16	16	9	14	15	16	10	15	16	16	10	14	15	16	1	2	1	1
DAKAR TO LISBON																						1508 N.MI.			
53,000	-56.5	-68	-12	-9	-8	-67	-11	-8	-7	-70	-13	-11	-10	-70	-14	-12	-11	-69	-12	-10	-8	4	3	3	3
40,000	-56.5	-56	0	3	5	-56	1	4	5	-52	4	5	6	-55	2	4	5	-55	2	4	5	4	4	2	3
30,000	-44.5	-62	3	5	6	-54	6	8	9	-54	10	12	13	-56	8	10	11	-58	7	9	10	3	2	2	2
20,000	-21.2	-14	7	8	9	-12	9	11	11	-8	14	15	16	-9	12	13	14	-11	10	12	13	3	2	2	2
10,000	-4.6	3	7	9	10	4	9	11	11	11	15	17	17	6	11	12	13	6	11	13	14	3	3	2	2
DAKAR TO LONDON																						2352 N.MI.			
53,000	-56.5	-65	-8	-6	-4	-65	-7	-4	-3	-65	-8	-6	-5	-66	-10	-8	-7	-65	-8	-6	-4	4	4	3	3
40,000	-56.5	-57	-0	3	5	-56	0	4	5	-53	4	6	7	-55	1	4	5	-55	1	4	5	5	5	3	3
30,000	-44.5	-66	1	3	4	-61	4	6	7	-56	9	11	12	-58	6	8	9	-60	5	7	9	3	3	3	3
20,000	-21.2	-17	4	6	7	-15	6	8	9	-9	12	14	14	-12	10	11	12	-13	8	10	12	3	3	2	3
10,000	-4.6	-0	4	6	8	2	6	8	9	9	13	15	16	4	9	10	11	3	8	11	12	3	3	2	3
DAKAR TO MADRID																						1707 N.MI.			
53,000	-56.5	-68	-11	-9	-7	-66	-10	-8	-6	-69	-13	-11	-10	-69	-13	-11	-10	-68	-12	-9	-8	4	3	3	3
40,000	-56.5	-56	0	3	5	-56	1	4	5	-52	4	6	7	-55	2	4	5	-55	2	4	5	4	4	2	3
30,000	-44.5	-62	2	4	5	-59	6	7	8	-54	10	12	13	-57	8	10	11	-58	7	9	10	3	2	2	3
20,000	-21.2	-15	6	8	9	-14	8	10	11	-8	13	15	15	-10	12	13	14	-11	10	12	13	3	2	2	2
10,000	-4.6	2	7	9	10	4	9	10	11	11	16	17	18	6	11	12	13	6	10	13	14	3	3	2	2
DAKAR TO MARSEILLES																						2078 N.MI.			
53,000	-56.5	-66	-10	-7	-6	-65	-9	-6	-5	-68	-11	-9	-8	-68	-12	-10	-9	-67	-10	-8	-6	4	3	3	3
40,000	-56.5	-56	0	3	5	-56	1	4	5	-52	4	6	7	-55	2	4	5	-55	2	4	5	4	4	2	3
30,000	-44.5	-63	2	3	4	-60	5	7	8	-55	10	11	12	-57	7	9	10	-59	6	8	10	3	3	2	3
20,000	-21.2	-16	5	7	8	-14	8	9	10	-8	13	15	15	-10	11	12	13	-12	9	11	13	3	3	2	2
10,000	-4.6	1	6	8	9	3	8	10	11	11	16	17	18	5	10	11	12	5	10	12	14	3	3	2	2
DAKAR TO MONTREAL																						3365 N.MI.			
53,000	-56.5	-66	-9	-7	-6	-64	-8	-6	-5	-66	-9	-7	-6	-68	-11	-9	-8	-66	-9	-7	-6	3	3	3	4
40,000	-56.5	-57	-0	3	5	-56	0	3	5	-55	2	4	5	-55	2	4	5	-56	1	3	4	5	5	2	3
30,000	-44.5	-63	2	4	5	-61	4	6	7	-56	9	11	12	-57	8	10	11	-59	6	8	9	3	3	3	3
20,000	-21.2	-17	5	7	8	-15	6	8	10	-9	12	14	15	-11	11	13	14	-13	8	11	12	4	3	2	3
10,000	-4.6	-1	4	6	8	0	5	7	8	7	11	13	14	5	9	11	12	3	7	10	11	4	3	2	3
DAKAR TO MUNICH																						2469 N.MI.			
53,000	-56.5	-65	-8	-6	-4	-64	-7	-5	-3	-66	-9	-7	-6	-67	-10	-8	-7	-65	-9	-6	-5	4	3	3	3
40,000	-56.5	-57	-0	3	5	-56	1	4	5	-52	4	6	7	-55	1	3	5	-55	2	4	5	5	5	3	3
30,000	-44.5	-66	0	2	4	-61	4	6	7	-55	9	11	12	-58	6	8	9	-60	5	8	9	3	3	3	3
20,000	-21.2	-18	4	6	7	-15	6	8	9	-9	12	14	15	-11	10	12	12	-13	8	10	12	3	3	2	3
10,000	-4.6	-1	4	6	8	2	7	9	10	10	14	16	17	4	9	11	11	4	8	11	13	3	3	2	3
DAKAR TO NAIROBI																						3370 N.MI.			
53,000	-56.5	-77	-21	-19	-18	-77	-20	-18	-17	-76	-20	-18	-17	-77	-21	-19	-18	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-54	3	4	4	-52	5	6	7	-53	4	5	6	3	3	2	2
30,000	-44.5	-54	11	12	13	-50	14	15	16	-52	13	14	14	-51	14	15	16	-52	13	14	15	2	2	2	2
20,000	-21.2	-7	14	15	16	-5	16	17	18	-5	16	17	17	-6	16	16	17	-6	15	16	17	1	2	1	1
10,000	-4.6	9	14	15	15	10	15	16	16	10	15	16	16	10	15	16	16	10	14	15	16	1	2	1	1
DAKAR TO NATAL																						1629 N.MI.			
53,000	-56.5	-78	-21	-19	-18	-78	-21	-19	-18	-74	-18	-16	-14	-77	-21	-19	-18	-77	-20	-18	-16	3	3	3	3
40,000	-56.5	-54	2	4	5	-53	3	6	7	-54	3	4	5	-53	4	5	6	-53	3	5	5	3	4	2	2
30,000	-44.5	-53	11	12	13	-50	14	15	16	-52	12	13	14	-51	14	15	15	-52	13	14	15	2	2	2	2
20,000	-21.2	-7	14	16	16	-6	15	17	17	-6	15	16	17	-6	16	17	17	-6	15	16	17	2	2	1	1
10,000	-4.6	9	14	15	15	9	14	15	16	9	14	15	15	10	15	16	16	9	14	15	16	1	2	1	2
DAKAR TO NEW ORLEANS																						4066 N.MI.			
53,000	-56.5	-72	-16	-14	-12	-71	-14	-12	-11	-70	-14	-12	-11	-74	-17	-15	-14	-72	-15	-13	-12	3	3	2	3
40,000	-56.5	-56	0	3	4	-57	-0	2	3	-55	1	2	3	-54	2	4	4	-56	1	3	4	3	3	2	2
30,000	-44.5	-59	6	8	9	-57	8	9	10	-54	10	12	12	-54	10	12	13	-56	9	11	12	2	2	2	2
20,000	-21.2	-11	10	11	12	-10	11	12	13	-7	14	15	16	-7	14	15	16	-9	12	14	14	2	2	2	2
10,000	-4.6	5	9	11	12	5	9	11	12	8	13	14	14	8	12	13	14	6	11	12	13	3	2	1	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
DAKAR TO NEW YORK																									3303 N.MI.
53,000	-56.5	-68	-11	-9	-8	-66	-10	-8	-7	-68	-11	-9	-8	-70	-13	-11	-10	-68	-11	-9	-8	3	3	3	3
40,000	-56.5	-57	-0	3	4	-57	-1	2	4	-55	2	3	4	-55	2	4	5	-56	1	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-39	5	7	8	-35	10	11	12	-36	9	11	12	-38	7	9	10	3	3	2	3
20,000	-21.2	-15	7	9	10	-13	8	10	11	-8	13	15	15	-9	12	14	14	-11	10	12	13	3	3	2	3
10,000	- 4.6	1	6	8	9	2	7	9	10	8	12	13	14	6	10	12	13	4	9	11	12	3	3	2	2
DAKAR TO PARIS																									2276 N.MI.
53,000	-56.5	-65	-9	-6	-5	-64	-7	-5	-4	-66	-9	-7	-6	-67	-10	-8	-7	-65	-9	-6	-5	4	4	3	3
40,000	-56.5	-57	-0	3	5	-56	0	4	5	-53	4	6	7	-55	1	3	5	-55	1	4	5	5	5	3	3
30,000	-44.5	-44	1	3	4	-41	4	6	7	-35	9	11	12	-38	6	8	9	-39	5	8	9	3	3	3	3
20,000	-21.2	-17	4	6	7	-15	7	9	10	-9	12	14	15	-11	10	12	13	-13	8	11	12	3	3	2	3
10,000	- 4.6	-0	5	7	8	2	7	9	10	9	16	16	16	4	9	11	12	4	9	11	13	3	3	2	3
DAKAR TO PORT OF SPAIN																									2576 N.MI.
53,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-18	-74	-18	-16	-15	-77	-21	-19	-18	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	5	6	-54	2	5	6	-54	2	3	4	-53	3	5	5	-54	3	4	5	3	3	2	2
30,000	-44.5	-34	10	11	12	-32	12	13	14	-33	11	12	13	-32	13	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-8	13	14	15	-7	14	16	16	-7	15	15	16	-6	16	16	17	-7	14	16	16	2	2	1	1
10,000	- 4.6	8	13	14	14	8	13	14	15	9	14	15	15	9	14	15	15	9	13	14	15	2	2	1	1
DAKAR TO RECIFE																									1720 N.MI.
53,000	-56.5	-78	-21	-19	-18	-78	-21	-19	-18	-74	-17	-15	-14	-77	-21	-19	-18	-77	-20	-18	-16	3	3	3	3
40,000	-56.5	-54	2	4	5	-53	3	6	7	-54	3	4	5	-53	4	5	6	-53	3	5	5	3	4	2	2
30,000	-44.5	-33	11	12	13	-30	14	15	16	-32	12	14	14	-31	14	15	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-7	15	16	16	-6	16	17	17	-6	15	16	17	-6	16	17	17	-6	15	16	17	2	2	2	2
10,000	- 4.6	9	14	15	15	9	14	15	16	9	14	15	15	10	15	16	17	9	14	15	16	1	2	2	2
DAKAR TO RIO DE JANEIRO																									2714 N.MI.
53,000	-56.5	-77	-21	-18	-17	-77	-20	-18	-17	-72	-16	-13	-12	-75	-18	-16	-15	-75	-19	-16	-14	3	3	3	3
40,000	-56.5	-54	3	5	6	-53	4	6	8	-53	3	5	6	-53	4	5	6	-53	3	6	7	3	4	2	2
30,000	-44.5	-33	12	13	14	-31	13	15	16	-33	12	13	14	-32	13	14	15	-32	12	14	15	2	2	2	2
20,000	-21.2	-6	15	16	17	-6	15	17	17	-7	16	15	16	-6	15	16	17	-6	15	16	17	2	2	2	2
10,000	- 4.6	9	14	15	16	9	14	15	16	8	12	14	14	10	14	16	16	9	14	15	16	2	2	2	2
DAKAR TO ROME																									2250 N.MI.
53,000	-56.5	-66	-10	-7	-6	-65	-9	-7	-5	-69	-12	-10	-9	-68	-12	-10	-9	-67	-11	-8	-7	4	3	3	3
40,000	-56.5	-56	1	4	5	-55	1	4	6	-52	5	6	7	-55	2	4	5	-54	2	4	6	4	4	2	3
30,000	-44.5	-43	1	3	4	-39	5	7	8	-34	10	12	13	-37	7	9	10	-39	6	8	10	3	2	2	3
20,000	-21.2	-16	5	7	8	-13	8	9	10	-8	13	15	16	-10	11	12	13	-12	9	11	13	3	3	2	2
10,000	- 4.6	1	5	7	8	4	8	10	11	11	16	18	18	5	10	11	12	5	10	13	14	3	3	2	2
DAKAR TO SAN JUAN																									2791 N.MI.
53,000	-56.5	-76	-19	-17	-16	-76	-19	-17	-17	-73	-17	-15	-14	-76	-20	-18	-17	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	2	4	5	-55	2	4	5	-55	2	3	4	-53	3	6	5	-54	2	4	6	3	3	2	2
30,000	-44.5	-36	9	10	11	-34	11	12	12	-34	11	12	12	-32	12	13	14	-34	11	12	13	2	2	2	2
20,000	-21.2	-9	12	13	14	-8	13	15	15	-7	14	15	16	-6	15	16	17	-7	14	15	16	2	2	1	1
10,000	- 4.6	7	12	13	14	7	12	13	14	9	14	15	15	9	13	16	15	8	13	14	16	2	2	1	1
DAKAR TO SANTA MARIA																									1396 N.MI.
53,000	-56.5	-69	-13	-11	-9	-68	-12	-10	-9	-70	-14	-12	-11	-71	-15	-13	-12	-70	-13	-11	-10	3	3	3	3
40,000	-56.5	-57	-0	3	4	-56	0	3	5	-53	6	5	6	-54	2	4	5	-55	1	3	4	4	4	2	3
30,000	-44.5	-41	4	6	7	-37	7	9	9	-34	10	12	12	-35	9	11	12	-37	8	9	11	3	2	2	2
20,000	-21.2	-14	8	9	10	-12	10	11	12	-8	14	15	15	-8	13	16	15	-10	11	13	16	2	2	2	2
10.000	- 4.6	4	8	10	11	4	9	11	11	9	14	15	16	7	12	13	14	6	11	12	13	2	2	2	2
DAKAR TO TEL AVIV-JAFFA																									3033 N.MI.
53,000	-56.5	-70	-13	-11	-10	-68	-11	-10	-9	-73	-16	-15	-14	-71	-15	-13	-12	-70	-14	-12	-10	3	3	3	3
40,000	-56.5	-54	2	5	6	-54	2	5	7	-50	6	7	8	-54	3	4	5	-53	3	5	6	4	4	2	2
30,000	-44.5	-42	3	4	5	-37	8	9	10	-31	14	16	16	-36	9	10	11	-36	8	11	12	2	2	2	2
20,000	-21.2	-15	7	8	9	-12	9	11	12	-5	16	17	18	-9	12	13	14	-10	11	13	14	2	2	2	2
10,C00	- 4.6	2	7	8	9	5	10	12	12	14	18	19	20	7	12	13	14	7	12	14	16	2	3	2	2
DAKAR TO VIENNA																									2615 N.MI.
53,000	-56.5	-64	-8	-5	-4	-63	-7	-5	-3	-66	-9	-7	-6	-67	-10	-8	-7	-65	-8	-6	-4	4	3	3	3
40,000	-56.5	-56	0	3	5	-56	1	4	5	-52	4	6	7	-55	1	3	5	-55	2	4	5	5	5	3	3
30,000	-44.5	-44	0	2	3	-41	4	5	6	-35	9	11	12	-38	6	8	9	-40	5	7	9	3	3	3	3
20,000	-21.2	-18	3	5	7	-15	6	8	9	-9	12	14	15	-12	10	11	12	-13	8	10	12	3	3	2	3
10,000	- 4.6	-1	4	6	7	2	6	8	10	10	16	16	17	4	9	10	11	4	8	11	13	3	3	2	3
DAKAR TO ZURICH																									2352 N.MI.
51,000	-56.5	-65	-9	-6	-4	-64	-7	-5	-4	-66	-10	-8	-6	-67	-11	-8	-7	-66	-9	-6	-5	4	3	3	3
40,000	-56.5	-57	-0	3	5	-56	1	4	5	-52	4	6	7	-55	1	3	5	-55	1	4	5	5	5	3	3
30,000	-44.5	-44	1	3	4	-40	4	6	7	-35	9	11	12	-38	7	8	10	-39	5	0	9	3	3	3	3
20,000	-21.2	-17	4	6	7	-14	7	9	10	-9	13	14	15	-11	10	12	13	-13	8	11	12	3	3	2	2
10,000	- 4.6	-0	4	7	8	2	7	9	10	10	15	16	17	4	9	11	12	4	9	11	13	3	3	2	2
DALLAS TO MEXICO CITY																									814 N.MI.
53,000	-56.5	-72	-16	-14	-13	-70	-14	-11	-10	-72	-15	-14	-13	-75	-19	-17	-16	-72	-16	-13	-12	3	3	2	3
40,000	-56.5	-56	0	2	4	-57	-0	2	3	-55	1	2	3	-55	2	3	4	-56	1	2	3	3	3	2	2
30,000	-44.5	-39	5	7	8	-38	6	8	8	-32	12	13	14	-35	10	12	12	-36	8	10	11	2	2	1	2
20,000	-21.2	-12	9	11	12	-10	11	13	14	-6	15	16	17	-8	14	15	16	-9	12	14	15	3	3	1	2
10,000	- 4.6	4	9	11	12	8	13	15	16	10	15	16	16	9	14	15	16	8	13	14	15	3	3	1	2
DALLAS TO MONTERREY																									455 N.MI.
53,000	-56.5	-70	-13	-11	-10	-68	-11	-9	-8	-71	-16	-13	-12	-74	-17	-15	-14	-70	-14	-11	-10	3	3	2	3
40,000	-56.5	-57	-0	2	4	-57	-1	1	3	-55	2	3	4	-55	1	3	4	-56	1	2	3	4	3	2	3
30,000	-44.5	-41	4	5	6	-40	5	6	7	-32	12	14	14	-36	9	11	12	-37	7	10	11	2	2	2	3
20,000	-21.2	-14	7	9	10	-12	9	11	12	-6	15	16	17	-9	13	14	15	-10	11	13	14	3	3	1	2
10,000	- 4.6	2	7	9	11	7	11	14	15	11	15	16	17	8	13	15	16	7	12	13	14	4	4	1	3
DALLAS TO TORONTO																									1036 N.MI.
53,000	-56.5	-63	-6	-4	-2	-61	-4	-1	0	-65	-8	-6	-5	-66	-9	-7	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-1	2	4	-54	3	4	5	-55	1	4	5	-56	1	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-44	1	3	4	-35	10	12	13	-48	4	7	8	-41	3	6	8	3	3	3	3
20,000	-21.2	-21	-0	3	5	-17	4	7	8	-8	13	15	15	-15	9	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-2	1	3	-1	3	7	8	8	12	14	15	3	8	11	13	1	5	9	10	5	5	2	4

*D—DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																				STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50*	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
DAMASCUS TO DHAHRAN																									843 N.MI.
53,000	-56.5	-66	-10	-7	-6	-65	-8	-6	-5	-72	-15	-13	-12	-68	-12	-10	-8	-68	-11	-9	-7	3	3	3	4
40,000	-56.5	-54	2	5	6	-54	2	5	7	-46	10	12	13	-55	2	4	5	-52	4	7	9	4	4	3	3
30,000	-44.5	-43	1	3	5	-40	5	7	8	-26	18	20	21	-37	8	10	11	-36	8	12	14	3	3	3	3
20,000	-21.2	-17	4	6	7	-14	7	9	10	-3	19	21	22	-10	11	12	13	-11	10	14	16	3	3	3	2
10,000	- 4.6	-1	3	6	7	4	8	11	12	15	20	21	22	7	12	13	14	6	11	14	16	3	3	2	3
DAMASCUS TO FRANKFURT																									1572 N.MI.
53,000	-56.5	-57	-1	2	4	-56	0	3	4	-58	-2	0	2	-60	-4	-1	0	-58	-1	1	3	4	3	3	4
40,000	-56.5	-57	-0	3	5	-56	0	4	5	-49	8	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-46	-2	1	2	-36	9	11	13	-42	2	5	6	-43	1	5	7	4	4	3	3
20,000	-21.2	-25	-4	-1	1	-20	1	4	5	-10	11	13	14	-16	5	8	9	-18	3	7	9	5	4	3	3
10,000	- 4.6	-10	-5	-2	-0	-4	1	4	5	5	10	12	13	0	5	7	9	-2	3	6	8	5	4	3	4
DAMASCUS TO JIDDA																									1787 N.MI.
53,000	-56.5	-68	-12	-9	-8	-67	-11	-9	-7	-73	-16	-14	-13	-71	-14	-12	-10	-70	-13	-10	-9	4	4	3	4
40,000	-55.5	-54	2	5	7	-53	3	6	8	-47	10	12	13	-54	2	5	6	-52	4	8	9	4	4	3	3
30,000	-44.5	-41	4	6	8	-38	7	9	10	-26	18	20	21	-35	9	11	12	-35	9	13	15	4	4	3	3
20,000	-21.2	-15	6	8	9	-11	10	12	13	-3	19	21	22	-9	12	14	15	-10	12	15	17	3	3	3	3
10,000	- 4.6	1	5	8	9	6	11	13	14	15	20	22	22	7	12	14	15	7	12	15	17	3	3	2	3
DAMASCUS TO KARACHI																									1681 N.MI.
53,000	-56.5	-67	-10	-8	-6	-66	-9	-7	-5	-72	-16	-13	-12	-69	-12	-10	-8	-68	-12	-9	-7	4	4	3	4
40,000	-56.5	-54	2	5	7	-54	3	6	8	-46	10	12	14	-54	2	4	6	-52	4	8	10	4	5	3	3
30,000	-44.5	-42	2	5	7	-39	5	8	9	-26	18	20	21	-36	8	11	12	-36	9	13	15	4	4	3	3
20,000	-21.2	-17	4	7	8	-13	9	11	12	-2	19	21	22	-10	11	13	14	-10	11	14	16	3	3	3	3
10,000	- 4.6	-1	4	6	8	5	10	12	13	15	20	22	22	7	12	13	14	7	11	15	16	4	3	2	3
DAMASCUS TO LISBON																									2199 N.MI.
53,000	-56.5	-59	-3	0	2	-58	-2	1	2	-63	-7	-5	-3	-62	-5	-3	-2	-61	-4	-1	0	4	4	3	3
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-50	7	9	10	-56	0	2	4	-55	2	5	7	5	5	3	3
30,000	-44.5	-47	-3	-1	0	-45	-0	2	3	-34	10	12	14	-41	4	6	7	-42	3	6	8	3	3	3	3
20,000	-21.2	-22	-1	2	4	-18	3	5	7	-9	13	14	15	-14	7	9	10	-16	6	9	10	4	3	3	3
10,000	- 4.6	-5	-1	2	4	-1	4	6	8	9	13	15	16	2	7	9	10	1	6	9	11	4	4	3	3
DAMASCUS TO MADRID																									1936 N.MI.
53,000	-56.5	-59	-2	1	2	-58	-1	1	2	-63	-6	-4	-3	-62	-5	-3	-2	-60	-4	-1	1	4	4	3	3
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-49	7	9	11	-56	0	2	4	-55	2	5	7	5	5	3	3
30,000	-44.5	-48	-3	-1	0	-45	-1	2	3	-34	10	13	14	-41	4	6	7	-42	3	6	8	3	3	3	3
20,000	-21.2	-22	-1	2	3	-18	3	5	6	-9	12	14	15	-14	7	9	10	-16	5	9	10	4	4	3	3
10,000	- 4.6	-6	-1	1	3	-1	3	6	7	8	13	15	16	2	7	9	10	1	5	9	11	4	4	3	3
DAMASCUS TO MILAN																									1456 N.MI.
53,000	-56.5	-58	-1	2	3	-57	-0	2	3	-61	-4	-2	-1	-61	-4	-2	-1	-59	-2	0	2	4	3	3	3
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-49	8	10	11	-56	0	2	4	-55	2	5	7	5	5	3	3
30,000	-44.5	-49	-5	-3	-1	-46	-1	1	2	-35	10	12	13	-42	3	5	7	-43	2	6	8	3	4	3	3
20,000	-21.2	-24	-3	-0	2	-20	2	4	6	-9	12	14	15	-15	6	8	9	-17	4	8	9	4	4	3	3
10,000	- 4.6	-8	-4	-1	1	-3	2	4	6	6	11	13	14	1	6	8	9	-1	4	7	9	4	4	3	3
DAMASCUS TO NEW DELHI																									2109 N.MI.
53,000	-56.5	-65	-8	-5	-4	-63	-7	-4	-3	-73	-14	-11	-10	-66	-10	-7	-6	-66	-10	-6	-5	4	4	4	4
40,000	-56.5	-54	2	5	7	-54	2	6	7	-47	10	13	14	-55	2	4	6	-52	4	8	10	5	5	4	4
30,000	-44.5	-44	1	4	5	-41	4	7	8	-27	18	20	21	-37	7	10	11	-37	7	12	14	4	4	3	4
20,000	-21.2	-19	2	5	6	-14	8	10	11	-2	19	21	22	-11	10	12	13	-12	10	14	16	4	4	3	3
10,000	- 4.6	-3	2	5	6	4	9	11	12	15	19	21	22	6	11	13	14	6	10	14	16	4	4	3	3
DAMASCUS TO NICOSIA																									178 N.MI.
53,000	-56.5	-62	-5	-3	-1	-60	-3	-1	-0	-69	-13	-11	-10	-64	-7	-5	-4	-64	-7	-4	-3	4	3	3	3
40,000	-56.5	-55	1	4	6	-56	1	4	6	-46	10	12	13	-56	0	3	4	-53	3	6	8	4	5	3	3
30,000	-44.5	-47	-3	-0	1	-44	1	3	4	-28	16	18	19	-40	5	7	8	-40	5	9	11	3	3	3	3
20,000	-21.2	-21	0	3	4	-17	4	6	8	-5	16	18	19	-13	8	10	11	-14	7	11	13	4	4	3	3
10,000	- 4.6	-5	-1	2	3	0	5	7	9	11	16	17	18	5	9	11	12	3	7	11	12	4	4	2	3
DAMASCUS TO RIYADH																									759 N.MI.
51,000	-56.5	-67	-10	-8	-7	-66	-9	-7	-6	-72	-16	-14	-13	-69	-13	-10	-9	-68	-12	-9	-8	3	3	3	3
40,000	-56.5	-54	2	5	6	-54	2	5	7	-47	10	12	13	-54	2	4	5	-52	4	7	9	4	4	3	3
30,000	-44.5	-43	1	4	5	-39	5	7	8	-26	18	20	21	-36	8	10	11	-36	8	12	14	3	3	3	3
20,000	-21.2	-17	5	7	8	-13	8	10	11	-3	18	20	21	-10	11	13	13	-11	10	14	16	3	3	3	2
10,000	- 4.6	-0	4	6	7	4	9	11	12	15	20	21	22	7	12	13	14	6	11	14	16	3	3	2	2
DAMASCUS TO ROME																									1223 N.MI.
51,000	-56.5	-58	-2	1	2	-58	-1	1	2	-63	-7	-5	-4	-62	-5	-3	-2	-60	-4	-1	1	4	3	3	3
40,000	-56.5	-56	0	3	5	-57	-1	3	5	-48	9	11	12	-56	0	2	4	-54	2	6	7	5	5	3	3
30,000	-44.5	-49	-4	-2	-1	-45	-1	2	3	-33	11	14	15	-41	3	6	7	-42	2	6	8	3	3	3	3
20,000	-21.2	-23	-2	1	2	-19	2	5	6	-8	13	15	16	-15	7	9	10	-16	5	8	10	4	4	3	3
10,000	- 4.6	-7	-3	0	2	-2	3	5	7	8	12	14	15	2	7	9	10	0	5	8	10	4	4	3	3
DAMASCUS TO TEL AVIV-JAFFA																									112 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-5	-3	-2	-70	-14	-12	-11	-65	-9	-7	-5	-65	-9	-6	-4	4	3	3	3
40,000	-56.5	-55	2	5	6	-55	1	4	6	-46	10	12	13	-56	1	3	4	-53	4	7	8	4	5	3	3
30,000	-44.5	-46	-2	1	2	-42	2	4	5	-27	17	19	20	-39	6	7	8	-39	6	10	12	3	3	3	3
20,000	-21.2	-20	2	4	5	-16	5	7	8	-4	17	19	20	-12	9	11	11	-13	8	12	14	3	3	3	2
10,000	- 4.6	-4	1	3	5	1	6	8	10	12	17	18	19	6	10	12	13	4	8	12	13	4	4	2	3
DAMASCUS TO TRIPOLI																									1159 N.MI.
53,000	-56.5	-62	-6	-4	-2	-60	-4	-2	-1	-68	-12	-10	-9	-64	-8	-6	-4	-64	-7	-5	-3	4	3	3	3
40,000	-56.5	-55	1	4	6	-56	0	4	5	-47	9	11	12	-56	1	3	4	-54	3	6	8	4	5	3	3
30,000	-44.5	-46	-2	0	1	-43	2	4	5	-30	14	16	17	-40	5	7	8	-40	5	9	11	3	3	3	3
20,000	-21.2	-20	1	3	5	-16	5	7	8	-6	15	17	18	-13	8	10	11	-14	7	11	12	4	3	2	2
10,000	- 4.6	-4	0	3	4	1	5	8	9	10	15	16	17	5	9	11	12	3	7	10	12	4	4	2	3
DAMASCUS TO TUNIS																									1287 N.MI.
53,000	-56.5	-60	-4	-1	0	-59	-2	-0	1	-66	-10	-7	-6	-63	-6	-4	-3	-62	-5	-3	-1	4	3	3	3
40,000	-56.5	-56	1	4	5	-57	-0	3	5	-48	9	11	12	-56	0	2	4	-54	2	6	7	5	5	3	3
30,000	-44.5	-47	-3	-1	0	-44	0	2	3	-32	13	15	16	-40	4	6	7	-41	4	7	9	3	3	3	3
20,000	-21.2	-22	-0	2	4	-18	4	6	7	-7	14	16	17	-14	7	9	10	-15	6	9	11	4	4	3	3
10,000	- 4.6	-6	-1	2	3	-1	4	7	8	9	14	15	16	3	8	10	11	2	6	9	11	4	4	3	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50*	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
DARWIN TO DJAKARTA																									1470 N.MI.
55,000	-56.5	-83	-26	-24	-23	-80	-23	-21	-20	-78	-22	-20	-19	-80	-23	-21	-20	-80	-23	-21	-20	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	4	6	6	-54	2	4	4	-54	2	4	5	-54	3	4	5	2	2	2	2
30,000	-44.5	-31	14	15	16	-32	13	14	15	-32	12	14	15	-32	12	14	14	-32	13	14	15	2	2	2	2
20,000	-21.2	-5	16	17	17	-6	16	16	17	-6	15	16	17	-6	15	16	17	-6	16	16	17	1	1	1	2
10,000	-4.6	10	14	15	16	10	14	16	16	8	13	14	15	9	14	15	15	9	14	15	16	1	2	2	2
DARWIN TO HONG KONG																									2504 N.MI.
55,000	-56.5	-81	-24	-22	-21	-80	-23	-21	-20	-78	-21	-19	-18	-79	-22	-20	-19	-79	-23	-20	-19	3	3	3	3
40,000	-56.5	-54	3	4	4	-52	5	6	7	-54	3	4	5	-54	2	4	5	-53	3	5	6	2	2	2	2
30,000	-44.5	-31	14	15	16	-31	14	15	16	-31	14	15	15	-31	13	15	15	-31	14	15	15	2	2	2	2
20,000	-21.2	-5	16	17	17	-5	16	17	18	-5	16	17	17	-6	16	17	17	-5	16	17	18	1	2	1	2
10,000	-4.6	9	14	15	15	10	15	16	17	10	14	15	16	10	14	15	16	10	14	16	16	1	2	1	1
DARWIN TO JOHANNESBURG																									5755 N.MI.
55,000	-56.5	-71	-15	-12	-11	-70	-13	-11	-10	-66	-9	-7	-6	-68	-11	-9	-7	-69	-12	-9	-8	4	4	4	4
40,000	-56.5	-54	3	5	6	-55	2	4	5	-52	4	6	8	-53	4	6	7	-53	3	5	7	4	3	3	3
30,000	-44.5	-34	11	13	14	-37	8	10	11	-37	7	10	11	-37	7	9	10	-36	8	11	12	3	3	4	3
20,000	-21.2	-8	13	14	15	-11	10	12	13	-13	9	11	12	-11	10	12	13	-11	11	12	13	2	2	3	3
10,000	-4.6	8	12	14	14	6	10	12	13	3	7	9	10	4	9	11	12	5	10	12	12	2	2	3	3
DARWIN TO MANILA																									1719 N.MI.
55,000	-56.5	-82	-26	-24	-23	-80	-24	-22	-21	-78	-22	-20	-19	-80	-23	-22	-21	-80	-24	-21	-20	3	3	3	3
40,000	-56.5	-54	2	4	4	-52	5	6	7	-54	2	3	4	-54	2	4	4	-54	3	5	6	2	2	2	2
30,000	-44.5	-31	14	15	16	-31	14	15	15	-31	13	14	15	-31	13	14	15	-31	13	15	15	2	2	2	2
20,000	-21.2	-5	17	17	18	-5	16	17	18	-5	16	17	17	-6	16	17	17	-5	16	17	17	1	2	1	1
10,000	-4.6	10	15	15	16	10	15	16	17	9	14	15	15	10	15	15	16	10	15	16	16	1	2	1	1
DARWIN TO MELBOURNE																									1695 N.MI.
55,000	-56.5	-73	-17	-15	-11	-71	-15	-12	-11	-69	-12	-10	-9	-69	-12	-10	-8	-71	-14	-11	-10	4	4	3	3
40,000	-56.5	-53	3	5	6	-54	2	4	5	-54	3	5	6	-53	3	6	7	-54	3	5	6	3	3	3	4
30,000	-44.5	-34	10	12	11	-37	7	9	10	-39	6	8	9	-38	6	8	9	-37	7	10	11	3	3	3	3
20,000	-21.2	-8	13	14	15	-11	10	12	13	-14	7	9	10	-13	9	10	11	-12	10	12	13	2	3	3	3
10,000	-4.6	8	13	14	15	4	9	11	12	1	6	8	9	4	8	10	11	4	9	11	13	2	2	3	3
DARWIN TO MOUNT ISA																									699 N.MI.
55,000	-56.5	-81	-24	-22	-21	-78	-22	-20	-18	-77	-20	-18	-17	-77	-20	-18	-17	-78	-22	-19	-18	3	3	3	3
40,000	-56.5	-53	4	5	6	-53	4	5	6	-54	2	4	5	-54	3	5	6	-53	3	5	6	2	2	2	3
30,000	-44.5	-31	13	15	16	-32	12	14	14	-33	11	13	14	-33	12	13	14	-32	12	14	15	2	2	3	3
20,000	-21.2	-6	15	17	17	-6	15	16	17	-8	13	15	15	-8	14	15	16	-7	14	16	16	2	2	2	2
10,000	-4.6	10	15	16	16	8	11	14	15	8	12	14	14	8	13	14	15	8	13	15	15	2	2	2	2
DARWIN TO NAIROBI																									5413 N.MI.
55,000	-56.5	-81	-24	-22	-21	-78	-21	-19	-18	-76	-19	-17	-16	-78	-21	-19	-18	-78	-22	-19	-18	3	3	3	3
40,000	-56.5	-53	3	5	6	-52	4	6	7	-54	3	4	5	-54	3	4	5	-55	1	5	6	2	2	2	2
30,000	-44.5	-30	14	15	16	-31	13	15	15	-32	12	14	15	-33	12	13	14	-32	13	14	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-6	15	16	17	-6	15	16	17	-6	15	16	16	-6	16	16	17	1	1	1	2
10,000	-4.6	10	14	15	15	9	14	15	15	8	12	14	14	9	13	15	15	9	14	14	15	1	1	2	2
DARWIN TO PERTH																									1430 N.MI.
55,000	-56.5	-76	-20	-17	-16	-74	-17	-15	-14	-72	-15	-11	-12	-72	-15	-13	-12	-73	-17	-14	-13	4	3	3	3
40,000	-56.5	-55	1	5	6	-55	2	4	5	-54	3	5	6	-53	3	5	7	-54	3	5	6	3	3	3	3
30,000	-44.5	-33	12	13	14	-36	9	11	11	-36	9	11	12	-36	8	10	11	-35	9	12	13	3	2	3	3
20,000	-21.2	-7	14	15	16	-9	12	13	14	-12	9	11	12	-11	11	12	13	-10	11	13	14	2	2	3	3
10,000	-4.6	10	15	16	17	7	11	13	14	4	9	10	11	6	10	12	13	7	11	13	14	2	2	3	3
DARWIN TO PORT MORESBY																									973 N.MI.
55,000	-56.5	-82	-26	-24	-23	-80	-23	-21	-20	-78	-22	-20	-19	-80	-23	-21	-20	-80	-23	-21	-20	3	3	3	3
40,000	-56.5	-53	3	5	5	-52	4	6	7	-54	2	3	4	-54	2	4	5	-54	3	5	6	2	2	2	3
30,000	-44.5	-31	14	15	16	-12	13	14	15	-32	12	14	14	-32	13	14	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-4	17	18	19	-6	15	17	17	-6	15	16	17	-6	15	16	17	-6	16	17	18	2	2	2	2
10,000	-4.6	10	15	16	16	10	14	15	16	9	13	14	15	9	13	15	15	9	14	15	16	2	2	2	2
DARWIN TO SINGAPORE																									1802 N.MI.
55,000	-56.5	-83	-26	-24	-23	-80	-23	-22	-21	-78	-22	-20	-19	-80	-24	-22	-21	-80	-24	-22	-20	3	3	3	3
40,000	-56.5	-54	2	4	4	-52	5	6	7	-54	2	3	4	-54	2	3	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-31	14	15	16	-31	13	15	15	-32	13	14	15	-32	13	14	14	-31	11	14	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	16	17	17	-6	15	16	17	-6	15	16	17	-5	16	17	17	1	1	1	1
10,000	-4.6	10	14	15	15	10	15	16	16	9	13	14	15	9	14	15	15	9	14	15	16	1	1	1	1
DARWIN TO SOERABAYA																									1117 N.MI.
55,000	-56.5	-83	-26	-24	-23	-80	-23	-21	-20	-78	-22	-20	-19	-80	-23	-21	-20	-80	-23	-21	-20	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	4	6	6	-54	2	4	4	-54	2	4	5	-54	3	4	5	2	2	2	2
30,000	-44.5	-31	14	15	16	-32	13	14	15	-32	12	14	15	-32	12	14	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-5	16	17	17	-6	16	16	17	-6	15	16	16	-6	15	16	17	-6	16	16	17	1	1	1	2
10,000	-4.6	10	14	15	16	10	15	16	16	8	13	14	15	9	14	15	15	9	14	15	16	1	2	2	2
DARWIN TO SYDNEY																									1702 N.MI.
55,000	-56.5	-75	-19	-17	-15	-71	-16	-14	-13	-70	-14	-12	-11	-70	-14	-11	-10	-72	-16	-13	-11	3	4	3	4
40,000	-56.5	-53	4	6	7	-54	3	5	6	-54	2	5	6	-54	3	5	7	-54	3	5	6	3	3	3	4
30,000	-44.5	-34	11	13	14	-36	8	10	11	-38	7	9	10	-37	7	9	11	-36	8	11	12	3	3	3	3
20,000	-21.2	-8	13	15	16	-10	11	13	14	-13	8	10	11	-12	9	11	12	-11	11	13	14	2	2	3	3
10,000	-4.6	8	13	14	15	5	10	11	12	3	7	9	10	5	9	11	12	5	10	12	13	2	2	3	3
DARWIN TO TAIPEI																									2514 N.MI.
55,000	-56.5	-80	-24	-22	-21	-79	-23	-20	-19	-77	-21	-19	-17	-78	-21	-19	-18	-79	-22	-20	-18	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	6	7	-54	3	4	5	-54	3	4	5	-53	3	5	6	2	2	2	2
30,000	-44.5	-31	14	15	16	-31	13	15	15	-31	14	15	16	-31	13	15	15	-31	14	15	16	2	2	2	2
20,000	-21.2	-5	16	17	17	-5	16	17	18	-5	16	17	17	-6	16	17	17	-5	16	17	17	1	2	1	2
10,000	-4.6	9	14	15	15	10	15	16	16	10	15	15	16	10	14	15	16	10	14	16	16	2	2	1	1
DARWIN TO TANANARIVE																									4808 N.MI.
55,000	-56.5	-77	-21	-18	-17	-75	-19	-16	-15	-72	-16	-13	-12	-73	-17	-15	-14	-74	-18	-15	-14	4	4	3	3
40,000	-56.5	-53	3	5	6	-53	3	5	6	-52	4	6	7	-53	3	5	6	-53	3	5	6	3	3	3	3
30,000	-44.5	-31	13	15	16	-34	11	12	13	-34	11	13	14	-34	10	12	13	-33	11	13	14	2	2	3	2
20,000	-21.2	-6	16	16	17	-8	14	15	15	-8	13	15	16	-8	13	14	15	-7	14	15	16	1	2	2	2
10,000	-4.6	9	14	15	15	8	13	14	15	6	10	12	13	7	11	13	14	8	12	13	14	1	2	3	2

*D—DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
DARWIN TO TOKYO																									2922 N.MI.
55,000	-56.5	-77	-20	-18	-17	-75	-19	-17	-15	-75	-18	-16	-14	-75	-19	-16	-15	-76	-19	-16	-15	5	5	4	5
40,000	-56.5	-52	4	6	7	-55	4	6	7	-55	4	6	7	-55	3	5	6	-55	4	6	7	5	5	5	5
30,000	-44.5	-31	13	15	16	-55	12	13	14	-30	14	16	16	-31	14	15	16	-31	13	15	16	5	2	2	2
20,000	-21.2	-7	14	15	16	-7	15	16	17	-5	16	17	18	-6	15	17	17	-6	15	16	17	2	2	2	2
10,000	- 4.6	7	11	13	13	9	13	15	16	10	15	16	16	9	14	15	16	9	13	15	15	2	2	2	2
DENVER TO HONOLULU																									2908 N.MI.
55,000	-56.5	-65	-9	-6	-5	-62	-6	-3	-2	-66	-9	-7	-6	-67	-11	-9	-7	-65	-9	-6	-4	4	4	3	3
40,000	-56.5	-56	1	5	7	-57	-1	2	4	-54	2	4	5	-55	1	4	5	-56	1	3	4	6	5	2	4
30,000	-44.5	-43	2	4	6	-42	3	5	6	-36	9	11	12	-38	6	8	9	-40	5	7	9	4	3	2	3
20,000	-21.2	-16	5	8	10	-15	6	9	10	-8	14	15	16	-11	10	13	14	-12	9	11	13	4	4	2	4
10,000	- 4.6	0	5	8	9	1	6	9	10	10	14	16	17	5	10	12	13	4	9	11	13	4	4	2	4
DENVER TO SAN JUAN																									2379 N.MI.
55,000	-56.5	-70	-13	-11	-10	-67	-11	-9	-8	-69	-12	-11	-10	-72	-15	-13	-12	-69	-13	-10	-9	3	3	2	3
40,000	-56.5	-56	0	3	4	-57	-0	2	3	-55	1	2	3	-55	1	3	4	-56	1	3	4	4	3	2	3
30,000	-44.5	-61	4	5	6	-59	5	7	8	-34	11	12	13	-36	8	10	11	-37	7	9	10	3	2	2	3
20,000	-21.2	-14	7	9	10	-12	9	11	12	-7	14	15	16	-9	12	14	15	-10	11	13	14	3	3	2	2
10,000	- 4.6	1	6	8	9	4	9	11	12	9	14	15	15	7	11	13	14	5	10	12	13	4	3	2	3
DENVER TO VANCOUVER																									961 N.MI.
55,000	-56.5	-59	-2	1	2	-56	0	3	4	-59	-2	-0	1	-61	-5	-2	-1	-59	-2	1	2	5	4	3	4
40,000	-56.5	-56	0	5	7	-57	-0	3	4	-54	2	5	6	-56	0	3	5	-56	1	3	5	7	6	4	5
30,000	-44.5	-50	-5	-3	-2	-67	-3	-1	1	-38	7	8	9	-43	2	4	6	-44	0	3	5	4	3	3	4
20,000	-21.2	-26	-5	0	2	-21	-0	3	4	-11	11	12	13	-17	4	7	9	-19	3	6	8	7	4	3	5
10,000	- 4.6	-10	-6	-1	1	-4	0	4	6	8	13	15	16	-0	4	8	10	-2	3	7	10	7	5	5	5
DETROIT TO LONDON																									5261 N.MI.
55,000	-56.5	-57	-0	3	5	-53	4	6	8	-51	5	8	9	-56	1	4	5	-54	3	6	7	4	4	4	4
40,000	-56.5	-54	3	7	9	-51	4	8	10	-51	6	9	11	-53	3	7	9	-53	4	8	10	6	7	5	6
30,000	-44.5	-50	-6	-3	-1	-48	-3	-1	1	-41	3	6	8	-45	-0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-3	-1	-25	-4	-0	2	-15	6	9	10	-20	1	4	6	-22	-1	3	5	7	5	4	6
10,000	- 4.6	-15	-10	-6	-4	-10	-5	-2	0	-0	5	7	8	-5	-1	3	5	-8	-3	1	3	7	5	3	5
DETROIT TO MEXICO CITY																									1584 N.MI.
55,000	-56.5	-69	-12	-10	-9	-67	-10	-8	-6	-69	-13	-11	-10	-72	-15	-13	-12	-69	-12	-10	-8	3	4	3	3
40,000	-56.5	-57	-0	2	4	-57	-1	2	3	-55	2	3	4	-55	1	3	4	-56	1	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-13	11	13	13	-37	8	10	11	-38	7	9	10	3	2	2	3
20,000	-21.2	-15	6	8	10	-13	9	11	12	-7	14	15	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	0	5	7	9	4	9	11	12	9	14	15	15	7	11	13	14	5	10	12	13	4	4	2	3
DETROIT TO MONTREAL																									458 N.MI.
55,000	-56.5	-58	-2	1	3	-56	0	3	4	-59	-2	1	2	-60	-4	-1	1	-58	-2	1	3	4	4	4	4
40,000	-56.5	-55	1	5	8	-55	2	6	8	-53	3	6	7	-55	2	5	7	-54	2	5	6	6	6	4	5
30,000	-44.5	-49	-5	-2	-1	-47	-3	-0	1	-37	7	10	11	-41	2	5	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-23	-2	2	3	-11	10	12	14	-17	5	8	10	-19	2	6	8	6	5	3	5
10,000	- 4.6	-13	-9	-4	-2	-8	-3	0	2	4	9	11	12	-1	4	7	9	-5	0	4	6	7	5	3	6
DETROIT TO SHANNON																									2944 N.MI.
55,000	-56.5	-57	-0	3	5	-53	4	6	8	-51	5	8	9	-56	1	4	5	-54	2	6	7	4	4	4	4
40,000	-56.5	-54	3	7	9	-53	4	8	10	-51	5	9	11	-53	3	7	9	-53	4	8	10	6	7	5	6
30,000	-44.5	-50	-6	-3	-1	-48	-3	-1	1	-41	3	6	8	-45	-0	3	4	-46	-1	2	4	4	4	4	4
20,000	-21.2	-29	-8	-4	-1	-25	-4	-0	2	-15	7	9	11	-20	1	5	7	-22	-1	3	5	7	5	4	6
10,000	- 4.6	-16	-11	-6	-4	-10	-5	-2	0	0	5	7	8	-5	-1	3	5	-8	-3	1	3	7	5	3	6
DETROIT TO TORONTO																									185 N.MI.
55,000	-56.5	-59	-1	0	2	-57	-1	2	3	-60	-3	-1	1	-61	-5	-2	-1	-59	-3	0	2	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	1	5	7	-53	3	5	7	-55	2	5	6	-55	2	4	6	6	6	3	5
30,000	-44.5	-49	-4	-2	-0	-47	-2	0	2	-37	8	10	11	-42	2	5	6	-44	1	5	6	4	4	3	4
20,000	-21.2	-25	-4	-1	1	-21	-0	3	5	-10	11	13	14	-16	5	9	10	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-8	-3	-1	-7	-2	2	4	5	9	11	12	-0	5	8	10	-3	1	5	7	6	5	3	5
DETROIT TO VANCOUVER																									1698 N.MI.
55,000	-56.5	-58	-1	2	4	-55	1	4	5	-57	-0	2	1	-59	-3	-0	1	-57	-1	2	4	5	4	3	4
40,000	-56.5	-55	1	5	8	-56	1	5	7	-54	3	5	7	-56	1	4	6	-55	1	4	6	6	6	4	5
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	0	-18	6	8	10	-44	1	3	5	-45	-1	3	5	4	3	3	4
20,000	-21.2	-28	-7	-3	-0	-23	-1	2	4	-12	10	12	13	-18	3	6	8	-20	1	5	7	7	5	3	5
10,000	- 4.6	-14	-9	-5	-2	-7	-2	2	3	5	10	12	14	-2	3	6	8	-4	0	5	7	7	5	4	6
DHAHRAN TO DJAKARTA																									3825 N.MI.
55,000	-56.5	-79	-22	-20	-19	-77	-20	-18	-17	-77	-21	-18	-17	-79	-22	-20	-19	-78	-21	-19	-18	3	3	3	3
40,000	-56.5	-55	2	4	5	-52	5	7	8	-51	5	7	8	-54	3	4	5	-53	3	6	7	3	3	3	3
30,000	-44.5	-33	12	14	15	-31	13	15	16	-29	16	17	18	-32	12	14	15	-31	13	15	16	3	3	2	2
20,000	-21.2	-7	14	16	16	-6	15	17	17	-4	17	18	19	-6	15	16	17	-6	15	17	18	2	2	2	2
10,000	- 4.6	8	13	14	15	10	14	16	16	11	16	17	17	9	14	15	15	10	14	16	16	2	2	2	2
DHAHRAN TO ISTANBUL																									1377 N.MI.
55,000	-56.5	-62	-6	-3	-2	-61	-5	-3	-1	-68	-12	-10	-9	-65	-9	-6	-5	-64	-8	-5	-3	4	3	3	4
40,000	-56.5	-55	1	4	6	-55	2	5	7	-46	10	12	13	-55	1	3	4	-51	4	7	9	4	5	3	3
30,000	-44.5	-46	-2	1	2	-42	2	4	6	-28	16	18	19	-39	6	8	9	-39	6	10	12	3	3	3	3
20,000	-21.2	-20	1	3	5	-16	5	7	8	-5	17	19	20	-12	9	11	12	-11	8	12	13	4	3	3	3
10,000	- 4.6	-4	0	3	4	1	6	8	10	12	17	18	19	5	10	12	13	3	8	11	13	4	4	2	3
DHAHRAN TO JOHANNESBURG																									3391 N.MI.
55,000	-56.5	-76	-20	-18	-16	-76	-19	-17	-16	-73	-16	-14	-13	-75	-19	-17	-15	-75	-19	-16	-15	3	4	3	3
40,000	-56.5	-53	4	5	6	-52	5	7	8	-51	5	7	8	-52	4	6	6	-52	4	6	7	3	3	2	2
30,000	-44.5	-12	12	14	15	-12	13	14	15	-31	13	15	16	-12	13	14	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-6	15	16	17	-6	15	16	17	-6	16	17	18	-6	15	16	17	-6	15	17	17	2	2	2	2
10,000	- 4.6	9	14	15	16	9	14	15	16	10	14	16	16	9	14	15	16	9	14	15	16	2	2	2	2
DHAHRAN TO KARACHI																									922 N.MI.
55,000	-56.5	-70	-14	-12	-10	-70	-14	-11	-10	-74	-17	-15	-13	-73	-17	-14	-13	-72	-15	-13	-11	4	4	4	4
40,000	-56.5	-54	3	5	7	-52	4	7	9	-47	9	12	13	-54	3	5	7	-52	5	8	10	4	4	4	4
30,000	-44.5	-38	6	9	11	-36	9	11	13	-26	19	21	22	-34	11	13	14	-33	11	15	16	4	4	3	3
20,000	-21.2	-13	8	10	11	-9	13	14	16	-3	19	20	21	-8	14	15	16	-8	13	16	18	3	3	3	3
10,000	- 4.6	3	8	10	11	9	14	16	17	16	21	22	23	8	13	14	15	9	14	17	18	3	3	2	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50*	050	075	085	APRIL 50	050	075	085	JULY 50	050	075	085	OCTOBER 50	050	075	085	ANNUAL 50	050	075	085	STANDARD DEVIATION JAN	APR	JUL	OCT
DHAHRAN TO KHARTOUM																									1174 N.MI.
55,000	-56.5	-73	-17	-15	-14	-75	-17	-14	-13	-75	-18	-16	-15	-75	-19	-17	-16	-74	-18	-15	-14	3	3	3	3
40,000	-56.5	-54	3	5	6	-53	4	6	7	-49	7	9	10	-53	3	5	6	-52	4	6	8	3	3	2	2
30,000	-44.5	-38	7	9	10	-34	11	12	13	-27	17	19	19	-33	12	13	14	-33	12	14	15	3	3	2	2
20,000	-21.2	-11	11	12	13	-8	13	14	15	-4	17	19	20	-7	14	16	16	-7	14	16	17	2	2	2	2
10,000	- 4.6	6	11	12	13	9	13	15	16	15	20	21	22	9	14	15	16	10	14	17	18	2	2	2	2
DHAHRAN TO LISBON																									3038 N.MI.
55,000	-56.5	-62	-5	-2	-1	-60	-4	-2	-0	-66	-10	-7	-6	-64	-8	-5	-4	-63	-7	-4	-2	4	3	3	3
40,000	-56.5	-56	1	4	6	-56	0	4	5	-49	8	10	11	-56	1	3	4	-54	2	6	7	5	5	3	3
30,000	-44.5	-46	-2	1	2	-43	1	4	5	-32	13	15	16	-39	5	7	8	-40	4	8	10	3	3	3	3
20,000	-21.2	-20	1	4	5	-17	5	7	8	-7	14	16	17	-13	8	10	11	-14	7	10	12	4	3	3	3
10,000	- 4.6	-4	1	3	5	1	5	8	9	11	15	17	18	4	8	10	11	3	7	11	12	4	4	2	3
DHAHRAN TO LONDON																									2731 N.MI.
55,000	-56.5	-59	-3	0	2	-58	-1	1	2	-60	-4	-2	-0	-62	-5	-3	-1	-60	-3	-0	1	4	3	3	4
40,000	-56.5	-56	0	3	5	-55	1	4	6	-48	8	11	12	-56	1	3	4	-54	2	6	8	5	5	4	4
30,000	-44.5	-49	-4	-2	-0	-45	-0	2	3	-34	11	13	14	-41	3	6	7	-42	2	6	8	4	4	3	3
20,000	-21.2	-23	-2	1	2	-19	2	5	6	-9	12	14	16	-15	6	9	10	-17	5	8	10	4	4	3	3
10,000	- 4.6	-8	-3	-0	1	-2	2	5	7	7	12	14	15	1	6	9	10	-0	4	8	10	5	4	3	4
DHAHRAN TO MADRID																									2778 N.MI.
55,000	-56.5	-61	-5	-2	-1	-60	-4	-1	-0	-66	-9	-7	-6	-64	-7	-5	-4	-63	-6	-3	-2	4	3	3	3
40,000	-56.5	-56	1	4	4	-56	0	4	5	-48	8	10	11	-56	1	3	4	-54	2	6	7	5	5	3	3
30,000	-44.5	-46	-2	0	2	-43	1	3	5	-32	13	15	16	-40	5	7	8	-40	4	8	10	3	3	3	3
20,000	-21.2	-21	1	3	5	-17	4	7	8	-7	14	16	17	-13	8	10	11	-14	7	10	12	4	3	3	3
10,000	- 4.6	-4	0	3	4	0	5	7	9	10	15	17	18	4	8	10	11	3	7	10	12	4	4	3	3
DHAHRAN TO MILAN																									2289 N.MI.
51,000	-56.5	-60	-4	-1	1	-59	-3	-0	1	-64	-8	-5	-4	-63	-7	-4	-3	-62	-5	-2	-1	4	3	3	4
40,000	-56.5	-56	1	4	5	-56	1	4	6	-48	9	11	12	-56	1	3	4	-54	3	6	8	4	5	3	3
30,000	-44.5	-48	-3	-1	1	-44	1	3	4	-32	13	15	16	-40	4	7	8	-41	4	8	10	3	3	3	3
20,000	-21.2	-22	-1	2	3	-18	3	6	7	-7	14	16	17	-14	7	9	11	-15	6	10	11	4	4	3	3
10,000	- 4.6	-6	-2	1	3	-1	4	6	8	9	14	16	17	3	8	10	11	1	6	9	11	4	4	3	3
DHAHRAN TO MOSCOW																									1865 N.MI.
51,000	-56.5	-59	-3	0	2	-58	-1	1	2	-59	-3	-1	0	-61	-4	-2	-0	-59	-3	-0	1	4	3	3	4
40,000	-56.5	-56	0	3	5	-54	2	5	7	-47	9	12	13	-55	2	4	5	-53	3	7	9	4	5	4	4
30,000	-44.5	-49	-4	-2	-0	-44	1	4	5	-32	12	15	16	-41	3	6	7	-41	3	7	10	4	4	4	4
20,000	-21.2	-24	-3	0	2	-18	3	6	8	-7	14	16	17	-16	6	8	10	-16	5	9	11	5	4	3	4
10,000	- 4.6	-9	-4	-1	1	-1	3	6	8	8	13	15	16	1	5	8	10	-0	4	8	10	5	4	3	4
DHAHRAN TO NAIROBI																									1825 N.MI.
51,000	-56.5	-76	-20	-18	-17	-77	-20	-18	-17	-76	-19	-17	-16	-77	-21	-19	-17	-76	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-53	5	7	8	-55	4	5	6	-52	4	6	7	2	3	2	2
30,000	-44.5	-34	11	12	13	-31	13	15	15	-29	15	17	17	-31	13	15	15	-31	13	15	16	2	2	2	2
20,000	-21.2	-7	15	16	16	-6	15	16	17	-4	17	18	19	-6	15	14	17	-6	15	17	18	2	2	2	2
10,000	- 4.6	9	13	15	15	10	14	16	16	13	18	19	20	9	14	15	16	10	15	17	17	2	2	2	2
DHAHRAN TO NEW DELHI																									1439 N.MI.
51,000	-56.5	-69	-12	-10	-8	-68	-11	-9	-7	-73	-16	-13	-12	-71	-14	-12	-10	-70	-14	-10	-9	4	4	4	4
40,000	-56.5	-54	3	6	7	-53	3	7	8	-47	9	12	14	-54	3	5	7	-52	4	8	10	5	5	4	4
10,000	-44.5	-40	5	8	10	-37	7	10	12	-26	18	21	22	-34	10	13	14	-34	10	14	16	5	4	3	4
20,000	-21.2	-15	6	8	10	-10	11	13	15	-2	19	21	22	-9	13	14	16	-9	12	15	17	3	3	3	3
10,000	- 4.6	1	6	8	9	8	13	15	16	16	21	22	23	7	12	14	15	8	13	16	18	3	3	2	3
DHAHRAN TO RIYADH																									210 N.MI.
51,000	-56.5	-70	-14	-11	-10	-70	-13	-11	-10	-74	-17	-15	-14	-73	-17	-14	-13	-72	-15	-13	-11	3	3	3	4
40,000	-56.5	-54	3	5	6	-53	4	7	8	-47	9	11	12	-54	3	5	6	-52	5	7	9	3	4	3	3
30,000	-44.5	-39	5	8	9	-34	9	11	12	-26	19	20	21	-34	11	13	14	-34	11	14	16	4	3	2	3
20,000	-21.2	-13	8	10	11	-10	11	13	14	-3	18	20	21	-8	13	15	16	-8	13	16	17	3	3	3	2
10,000	- 4.6	3	8	10	11	7	12	14	15	16	21	22	23	8	13	14	15	9	13	16	18	3	3	2	2
DHAHRAN TO ROME																									2065 N.MI.
55,000	-56.5	-61	-5	-2	-1	-60	-4	-2	-0	-67	-10	-8	-7	-64	-8	-5	-4	-63	-7	-4	-2	4	3	3	3
40,000	-56.5	-55	1	4	6	-56	1	4	6	-47	9	11	12	-56	1	1	4	-54	3	6	8	4	5	3	3
30,000	-44.5	-47	-2	0	1	-43	1	4	5	-30	14	16	17	-39	5	7	8	-40	5	8	11	3	3	3	3
20,000	-21.2	-21	0	1	4	-17	4	7	8	-6	15	17	18	-13	8	10	11	-14	7	10	12	4	3	3	3
10,000	- 4.6	-5	-0	2	4	0	5	7	9	11	15	17	18	4	9	11	12	3	7	10	12	4	4	2	3
DHAHRAN TO TEHERAN																									567 N.MI.
55,000	-56.5	-65	-9	-6	-5	-65	-8	-6	-4	-71	-15	-12	-11	-68	-11	-8	-7	-67	-11	-8	-6	3	4	3	4
40,000	-56.5	-54	2	5	6	-54	3	6	8	-46	10	12	14	-55	2	4	5	-52	4	8	9	4	5	3	3
30,000	-44.5	-41	2	4	6	-39	5	7	9	-26	18	20	21	-37	8	10	11	-36	8	12	14	4	4	3	3
20,000	-21.2	-18	1	6	7	-14	8	10	11	-2	19	21	22	-11	11	12	13	-11	10	14	16	3	3	3	3
10,000	- 4.6	-2	3	6	7	4	9	11	12	16	20	22	23	7	11	13	14	6	11	14	16	4	3	2	3
DHAHRAN TO TEL AVIV-JAFFA																									869 N.MI.
55,000	-56.5	-67	-10	-8	-7	-66	-9	-7	-6	-72	-16	-14	-13	-69	-13	-10	-9	-68	-12	-9	-8	3	3	3	3
40,000	-56.5	-54	3	5	6	-54	3	5	7	-46	10	12	13	-54	2	4	5	-52	4	7	9	4	4	3	3
30,000	-44.5	-43	2	4	5	-39	5	7	9	-26	19	20	21	-36	8	10	11	-36	8	12	14	3	3	3	3
20,000	-21.2	-17	5	7	8	-13	8	10	11	-2	19	21	22	-10	11	13	14	-11	11	14	16	3	3	3	2
10,000	- 4.6	-1	4	6	7	4	9	11	12	15	20	21	22	7	12	14	14	7	11	14	16	3	3	2	2
DHAHRAN TO TRIPOLI																									1961 N.MI.
55,000	-56.5	-66	-9	-7	-6	-64	-7	-5	-4	-71	-14	-12	-11	-68	-11	-9	-8	-67	-11	-8	-6	3	3	3	3
40,000	-56.5	-54	2	5	6	-55	1	5	6	-47	9	11	12	-55	2	3	5	-53	4	7	8	4	4	3	3
30,000	-44.5	-44	0	2	4	-40	4	6	7	-28	17	19	20	-38	7	9	10	-37	7	11	13	3	3	3	3
20,000	-21.2	-18	4	6	7	-14	7	9	10	-4	17	19	20	-11	10	12	13	-12	10	13	14	3	3	2	2
10,000	- 4.6	-1	3	5	6	3	7	10	11	13	18	19	20	6	11	13	13	5	10	13	14	3	3	2	2
DHAHRAN TO TUNIS																									2120 N.MI.
55,000	-56.5	-63	-7	-4	-3	-62	-5	-3	-2	-69	-12	-10	-9	-66	-9	-7	-6	-65	-8	-6	-4	4	3	3	3
40,000	-56.5	-55	2	4	6	-56	1	4	6	-47	9	11	12	-55	1	3	4	-53	3	6	8	4	5	3	3
30,000	-44.5	-45	-1	1	3	-42	3	5	6	-29	15	17	18	-39	6	8	9	-39	6	10	12	3	3	3	3
20,000	-21.2	-19	2	4	6	-16	5	8	9	-5	16	18	19	-12	9	11	12	-13	8	11	13	3	3	3	2
10,000	- 4.6	-3	1	4	5	2	6	9	10	12	16	18	19	5	10	11	12	4	8	12	13	3	4	2	3

*0--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
DJAKARTA TO HONG KONG																									1765 N.MI.
55,000	-56.5	-81	-26	-22	-21	-79	-23	-21	-20	-78	-21	-19	-18	-79	-22	-20	-19	-79	-23	-20	-19	5	5	5	5
40,000	-56.5	-54	2	3	4	-52	5	6	7	-54	3	4	4	-54	2	4	4	-54	3	5	5	2	2	2	2
30,000	-44.5	-31	13	15	15	-30	14	16	16	-30	14	15	16	-31	13	15	15	-31	14	15	16	2	2	2	2
20,000	-21.2	-5	16	17	17	-5	17	18	18	-5	16	17	17	-6	16	17	17	-5	16	17	18	2	2	1	2
10,000	- 4.6	9	14	15	15	10	15	16	16	10	14	15	15	9	14	15	15	10	14	15	16	2	1	1	1
DJAKARTA TO KARACHI																									2975 N.MI.
55,000	-56.5	-80	-23	-21	-20	-77	-20	-18	-17	-78	-21	-19	-17	-79	-23	-21	-20	-78	-22	-19	-18	5	5	3	5
40,000	-56.5	-55	1	3	5	-52	5	7	8	-52	4	6	7	-54	2	4	5	-55	3	5	7	5	5	3	5
30,000	-44.5	-32	12	14	15	-31	13	15	16	-29	15	17	17	-32	13	14	15	-31	13	15	16	5	5	2	2
20,000	-21.2	-6	15	16	17	-6	15	17	18	-6	17	18	19	-6	15	17	17	-6	16	17	18	2	2	2	2
10,000	- 4.6	9	13	14	15	10	15	16	17	10	15	16	17	9	14	15	15	9	14	15	16	2	2	1	2
DJAKARTA TO MANILA																									1499 N.MI.
55,000	-56.5	-82	-25	-24	-21	-80	-24	-22	-21	-78	-22	-20	-19	-80	-23	-22	-21	-80	-24	-21	-20	5	5	5	5
40,000	-56.5	-54	2	3	4	-52	5	6	7	-54	2	3	4	-54	2	3	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-31	14	15	16	-30	14	15	16	-31	14	15	15	-31	13	14	15	-31	14	15	16	2	2	2	1
20,000	-21.2	-5	16	17	18	-5	17	17	18	-5	15	17	17	-6	16	17	17	-5	16	17	18	1	1	1	1
10,000	- 4.6	10	14	15	16	10	15	16	16	9	14	15	15	10	14	15	15	10	14	15	16	1	1	1	1
DJAKARTA TO MEDAN																									761 N.MI.
55,000	-56.5	-83	-26	-24	-21	-80	-23	-21	-20	-78	-22	-20	-19	-80	-24	-22	-21	-80	-24	-22	-20	5	5	5	5
40,000	-56.5	-55	2	3	4	-52	5	6	7	-54	2	1	4	-54	2	3	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-31	14	15	15	-30	14	15	16	-31	11	14	15	-32	13	14	14	-31	13	15	15	2	2	2	1
20,000	-21.2	-5	17	17	18	-5	16	17	17	-5	16	17	17	-6	15	16	17	-5	16	17	18	1	1	1	1
10,000	- 4.6	10	14	15	15	10	14	15	16	9	13	14	15	9	14	15	15	9	14	15	15	1	1	1	1
DJAKARTA TO MENADO																									1176 N.MI.
55,000	-56.5	-81	-26	-24	-23	-80	-24	-22	-21	-78	-22	-20	-19	-80	-24	-22	-21	-80	-24	-22	-21	5	5	5	5
40,000	-56.5	-54	2	3	4	-52	5	6	7	-54	2	3	4	-54	2	3	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-31	14	15	16	-31	14	15	15	-31	13	14	15	-32	11	14	14	-31	11	15	15	2	2	2	1
20,000	-21.2	-5	17	17	18	-5	16	17	17	-5	16	16	17	-6	16	16	17	-5	16	17	17	1	1	1	1
10,000	- 4.6	10	14	15	15	10	15	16	16	9	13	14	15	10	14	15	15	10	14	15	16	1	1	1	1
DJAKARTA TO NAIROBI																									4194 N.MI.
55,000	-56.5	-81	-24	-22	-21	-78	-21	-19	-18	-76	-20	-18	-17	-79	-22	-20	-19	-78	-22	-20	-18	5	5	5	5
40,000	-56.5	-54	3	5	5	-52	5	6	7	-54	3	4	5	-55	1	4	5	-55	3	5	6	2	2	2	2
30,000	-44.5	-30	14	15	16	-30	14	15	16	-31	11	14	15	-32	12	13	14	-31	13	15	15	2	2	2	2
20,000	-21.2	-5	17	17	18	-5	16	17	17	-5	16	17	17	-6	15	16	17	-5	16	17	17	1	1	1	1
10,000	- 4.6	10	14	15	15	10	14	15	15	8	13	14	14	9	14	15	15	9	14	15	15	1	1	2	1
DJAKARTA TO NEW DELHI																									2700 N.MI.
55,000	-56.5	-79	-22	-20	-19	-75	-19	-17	-15	-77	-21	-18	-17	-78	-22	-20	-18	-77	-21	-18	-17	5	5	4	5
40,000	-56.5	-55	1	1	4	-52	4	6	7	-52	4	6	7	-54	2	4	5	-54	3	5	6	5	5	5	3
30,000	-44.5	-33	11	13	14	-32	13	15	16	-29	15	17	18	-32	11	14	15	-31	13	15	16	5	5	2	2
20,000	-21.2	-7	14	16	16	-6	15	17	17	-6	17	18	19	-6	15	17	17	-6	15	17	18	2	2	2	2
10,000	- 4.6	8	13	14	15	10	14	16	16	10	15	15	16	9	13	15	15	9	14	15	16	2	2	1	2
DJAKARTA TO PADANG																									501 N.MI.
55,000	-56.5	-81	-26	-24	-21	-80	-23	-21	-20	-78	-22	-20	-19	-80	-24	-22	-21	-80	-24	-22	-20	5	5	5	5
40,000	-56.5	-54	2	1	4	-52	5	6	7	-54	2	3	4	-54	2	3	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-31	14	15	15	-31	14	15	15	-31	13	14	15	-32	12	11	14	-31	13	14	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	16	17	17	-5	16	16	17	-6	15	16	17	-5	16	17	17	1	1	1	1
10,000	- 4.6	10	14	15	15	10	14	15	16	8	13	14	14	9	14	15	15	9	14	15	15	1	1	1	1
DJAKARTA TO PERTH																									1629 N.MI.
55,000	-56.5	-77	-21	-19	-17	-75	-18	-16	-15	-71	-17	-14	-13	-73	-17	-15	-11	-75	-18	-16	-14	5	5	5	5
40,000	-56.5	-54	3	5	6	-54	1	4	5	-55	3	5	6	-54	1	5	6	-54	3	5	6	5	2	5	5
30,000	-44.5	-32	12	14	14	-33	10	11	12	-35	10	12	11	-35	9	11	12	-34	10	12	13	2	2	3	2
20,000	-21.2	-7	15	16	16	-9	13	14	15	-10	11	12	13	-10	12	11	14	-9	12	14	15	2	2	2	2
10,000	- 4.6	9	14	15	15	7	12	13	14	5	9	11	12	6	11	12	13	7	11	11	14	1	2	2	2
DJAKARTA TO RANGOON																									1522 N.MI.
55,000	-56.5	-82	-25	-23	-22	-79	-22	-20	-19	-78	-22	-20	-19	-80	-24	-22	-21	-80	-23	-21	-20	5	5	5	5
40,000	-56.5	-55	1	1	4	-52	5	6	7	-54	2	4	4	-54	2	3	4	-54	1	4	5	2	2	2	2
30,000	-44.5	-31	13	15	15	-30	14	16	16	-30	14	15	16	-32	11	14	15	-31	14	15	16	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	17	18	18	-5	16	17	17	-6	16	17	17	-5	16	17	18	2	2	1	2
10,000	- 4.6	9	14	15	15	10	15	16	16	9	14	15	15	9	14	15	15	9	14	15	16	1	1	1	1
DJAKARTA TO SINGAPORE																									483 N.MI.
55,000	-56.5	-81	-26	-24	-23	-80	-23	-22	-21	-78	-22	-20	-19	-80	-24	-22	-21	-80	-24	-22	-20	5	5	5	5
40,000	-56.5	-55	2	3	4	-52	5	6	7	-54	2	3	4	-54	2	3	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-31	14	15	15	-31	14	15	15	-31	11	14	15	-32	13	14	14	-31	13	15	15	2	2	2	1
20,000	-21.2	-5	17	17	18	-5	16	17	17	-5	16	16	17	-6	15	16	17	-5	16	17	17	1	1	1	1
10,000	- 4.6	10	14	15	15	10	14	15	16	9	13	14	14	9	14	15	15	9	14	15	15	1	1	1	1
DJAKARTA TO TAIPEI																									2060 N.MI.
55,000	-56.5	-80	-21	-21	-20	-79	-22	-20	-19	-77	-21	-18	-17	-78	-21	-19	-18	-78	-22	-19	-18	5	3	5	5
40,000	-56.5	-54	2	4	4	-52	5	6	7	-54	3	4	5	-54	3	4	5	-55	3	5	6	2	2	2	2
30,000	-44.5	-31	14	15	16	-30	14	15	16	-30	14	15	16	-31	14	15	15	-31	14	15	16	2	2	2	2
20,000	-21.2	-6	15	17	17	-5	16	17	18	-5	16	17	18	-6	16	17	17	-5	16	17	17	2	2	1	2
10,000	- 4.6	9	13	14	15	10	14	16	16	10	15	15	16	10	14	15	15	10	14	15	15	2	2	1	1
DJAKARTA TO TANANARIVE																									5538 N.MI.
55,000	-56.5	-79	-22	-20	-19	-76	-20	-17	-16	-73	-17	-15	-14	-76	-19	-17	-16	-76	-19	-17	-15	4	4	5	3
40,000	-56.5	-55	3	5	6	-55	4	6	7	-51	4	6	6	-54	1	5	5	-55	4	5	6	3	3	2	2
30,000	-44.5	-30	14	15	16	-32	12	14	15	-33	12	13	14	-33	11	13	13	-32	12	14	15	2	2	2	2
20,000	-21.2	-5	16	17	17	-7	15	16	16	-6	15	16	17	-7	14	15	16	-6	15	16	17	1	1	2	2
10,000	- 4.6	9	14	15	15	9	14	15	15	7	11	13	13	8	13	14	15	8	13	14	15	1	2	2	2
DJAKARTA TO TARAKAN																									858 N.MI.
55,000	-56.5	-81	-26	-24	-23	-80	-24	-22	-21	-78	-22	-20	-19	-80	-24	-22	-21	-80	-24	-22	-20	3	3	5	3
40,000	-56.5	-54	2	3	4	-52	5	6	7	-54	2	3	4	-54	2	3	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-31	14	15	15	-31	14	15	16	-31	13	14	15	-32	13	14	14	-31	13	15	15	2	2	2	1
20,000	-21.2	-5	17	17	18	-5	16	17	17	-5	16	16	17	-6	16	16	17	-5	16	17	17	1	1	1	1
10,000	- 4.6	10	14	15	15	10	15	16	16	9	13	14	15	10	14	15	15	10	14	15	16	1	1	1	1

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
DOHA TO JIDDA																						717 N.MI.			
55,000	-56.5	-72	-15	-13	-12	-77	-15	-13	-12	-76	-18	-16	-15	-76	-18	-16	-14	-75	-16	-14	-15	5	5	5	5
40,000	-56.5	-54	5	5	6	-51	4	6	8	-48	8	10	11	-55	5	5	6	-52	4	7	8	5	4	5	5
30,000	-44.5	-39	6	8	9	-35	10	12	13	-26	18	20	20	-33	11	13	14	-33	11	34	16	5	5	2	5
20,000	-21.2	-12	9	11	12	-9	12	14	15	-5	18	19	20	-7	14	15	16	-8	13	16	17	2	2	2	2
10,000	- 4.6	5	9	11	12	8	11	14	15	16	21	22	23	9	13	15	15	9	14	37	18	5	2	2	2
DUBROVNIK TO ROME																						257 N.MI.			
55,000	-56.5	-56	0	1	5	-56	1	3	4	-57	-1	1	3	-60	-4	-1	0	-57	-1	2	3	5	4	3	3
40,000	-56.5	-57	-1	3	4	-58	-1	2	4	-50	6	9	10	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-50	-5	-3	-1	-46	-2	1	2	-37	7	9	11	-47	3	5	6	-44	1	4	6	4	4	3	4
20,000	-21.2	-25	-4	-1	1	-20	1	4	5	-11	10	12	13	-16	5	8	9	-18	3	7	8	5	4	3	3
10,000	- 4.6	-8	-4	-1	1	-4	1	4	5	5	10	12	13	-0	4	7	8	-2	3	6	8	4	4	3	4
DUBROVNIK TO SKOPJE																						165 N.MI.			
55,000	-56.5	-56	0	3	5	-56	1	3	5	-57	-1	2	3	-60	-3	-1	0	-57	-1	2	4	5	4	3	3
40,000	-56.5	-57	-1	3	4	-57	-1	2	4	-49	7	10	11	-56	8	2	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-4	-4	-2	-47	-2	0	2	-37	7	10	11	-42	2	5	6	-44	0	4	6	4	4	3	4
20,000	-21.2	-25	-4	-1	1	-20	1	3	5	-11	10	12	13	-16	5	8	9	-16	3	6	8	5	4	3	3
10,000	- 4.6	-10	-5	-2	-1	-4	0	3	5	5	9	11	13	-0	4	7	8	-2	2	6	8	4	4	3	4
DURBAN TO EAST LONDON																						265 N.MI.			
55,000	-56.5	-65	-4	-6	-4	-65	-4	-6	-4	-58	-2	1	2	-62	-5	-3	-1	-62	-6	-2	-1	4	4	4	4
40,000	-56.5	-51	1	4	8	-55	1	4	5	-52	4	7	8	-55	4	6	8	-51	3	6	8	4	4	4	4
30,000	-44.5	-36	8	11	12	-38	6	8	10	-42	2	5	7	-39	6	8	9	-39	6	8	10	3	3	4	4
20,000	-21.2	-9	12	13	14	-12	9	11	12	-17	5	7	8	-13	8	11	12	-13	8	11	12	3	3	3	3
10,000	- 4.6	4	13	14	15	5	10	12	13	0	5	7	8	4	9	11	13	4	9	32	13	3	3	3	4
DURBAN TO PERTH																						4251 N.MI.			
55,000	-56.5	-61	-5	-2	-1	-62	-5	-2	-1	-57	-1	2	3	-58	-2	1	3	-60	-3	0	2	4	4	4	4
40,000	-56.5	-55	2	5	7	-57	-1	2	4	-54	3	6	7	-52	4	7	9	-54	2	5	7	5	4	4	4
30,000	-44.5	-39	6	8	9	-41	3	5	7	-45	-0	3	4	-42	2	5	6	-42	3	5	7	3	3	4	4
20,000	-21.2	-13	8	11	12	-16	5	7	9	-20	1	3	5	-17	4	7	8	-17	5	7	9	3	4	4	4
10,000	- 4.6	2	7	9	10	1	5	8	9	-3	1	4	5	-3	2	5	6	-1	4	7	8	3	3	4	4
DUSSELDORF TO FRANKFURT																						102 N.MI.			
55,000	-56.5	-56	0	3	5	-56	1	5	7	-50	6	8	10	-58	-1	1	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	5	9	10	-56	0	3	5	-55	1	5	8	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	1	-41	4	6	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-4	-2	0	-25	-1	2	3	-14	7	9	11	-18	3	6	8	-20	1	4	6	6	4	3	5
10,000	- 4.6	-11	-7	-3	-1	-6	-2	1	3	2	6	8	10	-3	2	5	7	-5	-0	3	5	6	4	3	5
DUSSELDORF TO GENEVA																						504 N.MI.			
55,000	-56.5	-57	-0	3	5	-54	2	5	6	-52	5	7	8	-58	-2	1	2	-55	1	4	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-0	4	6	-52	4	8	9	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-40	5	7	8	-45	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-13	8	10	11	-18	4	7	8	-20	1	5	7	6	4	3	4
10,000	- 4.6	-10	-5	-2	0	-6	-1	2	3	2	7	9	10	-2	3	6	7	-6	1	4	6	5	4	3	4
DUSSELDORF TO GLASGOW																						478 N.MI.			
55,000	-56.5	-57	-1	2	4	-53	3	6	7	-49	8	10	11	-57	-1	2	4	-54	2	6	8	5	4	4	4
40,000	-56.5	-58	-2	3	5	-54	2	7	9	-50	6	10	12	-56	0	4	6	-55	2	7	9	6	7	6	5
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	1	-41	3	6	7	-45	-0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-25	-2	1	3	-15	6	8	10	-19	2	5	7	-21	0	4	6	6	5	3	5
10,000	- 4.6	-10	-6	-2	-0	-7	-3	0	2	0	5	7	8	-4	1	4	6	-5	-1	3	5	5	4	3	5
DUSSELDORF TO HAMBURG																						184 N.MI.			
55,000	-56.5	-57	-0	3	5	-53	3	6	7	-49	7	9	11	-57	-1	2	3	-56	2	6	7	5	4	5	4
40,000	-56.5	-58	-2	2	4	-55	2	6	8	-51	6	9	11	-56	0	4	5	-55	1	4	8	6	6	5	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-41	3	6	7	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-0	-25	-2	1	3	-15	7	9	10	-19	2	6	7	-21	0	4	6	6	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-7	-3	0	2	1	6	8	9	-4	0	4	5	-6	-1	3	5	6	5	3	5
DUSSELDORF TO HELSINKI																						814 N.MI.			
55,000	-56.5	-57	-1	3	4	-53	4	6	8	-48	9	11	12	-56	0	3	4	-53	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	3	7	9	-50	7	10	12	-56	1	4	6	-55	2	6	9	5	6	5	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-42	3	6	7	-46	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-30	-9	-5	-2	-25	-4	-0	1	-15	6	8	9	-20	1	4	6	-23	-1	2	5	6	5	3	5
10,000	- 4.6	-14	-10	-6	-4	-9	-5	-1	1	-0	5	7	8	-6	-1	2	4	-7	-3	1	3	6	5	3	5
DUSSELDORF TO ISTANBUL																						1100 N.MI.			
55,000	-56.5	-56	1	4	5	-55	2	4	6	-55	3	6	7	-59	-2	0	2	-56	1	4	5	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	0	4	6	-50	6	9	11	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-47	-3	-0	1	-39	6	8	10	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-5	-2	-0	-22	-0	2	4	-13	9	11	12	-17	4	7	8	-20	2	5	7	5	4	3	4
10,000	- 4.6	-12	-7	-3	-2	-6	-1	2	4	1	8	10	11	-2	3	6	7	-4	1	4	6	5	4	3	4
DUSSELDORF TO KEFLAVIK																						1194 N.MI.			
55,000	-56.5	-58	-1	2	4	-51	5	8	9	-47	9	12	13	-56	1	4	5	-53	4	7	9	5	4	3	4
40,000	-56.5	-57	-1	4	6	-52	5	9	12	-49	8	12	14	-55	2	6	8	-53	3	8	11	7	7	6	6
30,000	-44.5	-52	-7	-4	-3	-48	-4	-1	1	-45	2	4	6	-46	-1	2	3	-47	-3	1	3	4	4	4	5
20,000	-21.2	-28	-7	-3	-1	-26	-4	-1	1	-17	4	7	8	-21	-0	4	6	-23	-2	2	4	6	5	4	6
10,000	- 4.6	-12	-8	-4	-2	-10	-5	-2	-0	-2	3	5	6	-6	-1	2	4	-7	-3	1	3	5	5	3	5
DUSSELDORF TO LISBON																						1004 N.MI.			
55,000	-56.5	-58	-2	2	3	-56	1	3	5	-55	1	4	5	-60	-3	-1	1	-57	-1	2	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-53	3	7	8	-56	0	3	5	-56	0	4	6	6	6	5	4
30,000	-44.5	-48	-4	-1	-0	-46	-2	1	2	-39	6	8	10	-42	2	5	6	-44	1	4	6	4	4	3	4
20,000	-21.2	-23	-2	1	3	-20	1	4	5	-12	9	11	12	-16	5	8	9	-18	3	7	8	5	4	3	4
10,000	- 4.6	-7	-2	1	3	-3	1	4	5	4	9	11	12	-0	4	7	8	-1	3	6	8	5	4	3	4
DUSSELDORF TO LONDON																						770 N.MI.			
55,000	-56.5	-57	-1	3	4	-54	3	5	7	-50	6	9	10	-58	-1	2	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-55	1	6	8	-51	6	9	11	-56	0	4	5	-55	1	6	8	6	7	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	1	-41	4	6	8	-44	0	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-25	-1	2	4	-14	7	9	10	-18	3	6	8	-20	1	4	6	6	5	3	5
10,000	- 4.6	-10	-5	-2	0	-6	-2	1	3	1	6	8	9	-3	2	5	7	-4	0	4	5	5	4	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
DUSSELDORF TO MADRID																						777 N.MI.			
53,000	-56.5	-58	-1	2	4	-56	1	4	5	-55	2	4	6	-59	-3	-0	1	-57	-0	3	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-53	4	7	8	-56	0	3	5	-56	0	4	6	6	6	5	4
30,000	-44.5	-49	-4	-2	-0	-47	-2	1	2	-39	6	8	9	-45	2	5	6	-44	0	4	6	4	4	3	4
20,000	-21.2	-24	-3	1	2	-21	1	3	5	-12	9	11	12	-16	5	8	9	-18	5	6	8	5	4	3	4
10,000	-4.6	-7	-3	1	2	-4	1	3	5	4	9	11	12	-1	4	7	8	-2	5	6	8	5	4	3	4
DUSSELDORF TO MONTREAL																						3063 N.MI.			
53,000	-56.5	-56	0	3	5	-52	4	7	8	-50	6	9	10	-55	1	4	6	-54	3	6	8	5	4	4	4
40,000	-56.5	-54	2	7	9	-53	4	8	11	-51	6	9	11	-53	3	7	9	-53	4	8	10	6	7	5	6
30,000	-44.5	-50	-6	-3	-1	-48	-3	-1	1	-42	3	6	7	-45	-0	2	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-3	-1	-25	-4	-0	2	-15	6	9	10	-21	0	4	6	-23	-1	3	5	7	5	4	6
10,000	-4.6	-15	-10	-6	-3	-10	-5	-2	0	-0	4	6	8	-6	-1	3	5	-8	-3	1	3	6	5	3	5
DUSSELDORF TO MOSCOW																						1117 N.MI.			
53,000	-56.5	-56	0	3	5	-53	4	6	8	-48	9	11	12	-56	0	3	4	-53	3	7	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	2	6	8	-50	6	10	11	-55	1	4	6	-55	2	6	8	5	6	5	5
30,000	-44.5	-53	-8	-5	-4	-49	-4	-1	0	-41	4	6	8	-45	-0	2	4	-47	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-24	-3	1	3	-15	7	9	10	-20	1	5	7	-22	-1	3	5	6	5	3	5
10,000	-4.6	-14	-10	-6	-4	-8	-4	-0	2	0	5	7	8	-6	-1	2	4	-7	-2	1	3	6	5	3	5
DUSSELDORF TO MUNICH																						269 N.MI.			
53,000	-56.5	-56	0	4	5	-54	2	5	6	-51	6	8	9	-58	-1	1	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	0	4	6	-52	5	8	10	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	1	-40	4	7	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-22	-1	2	3	-14	7	10	11	-18	3	6	8	-20	1	5	6	6	4	3	5
10,000	-4.6	-11	-7	-3	-1	-6	-2	1	3	2	7	9	10	-2	2	5	7	-4	0	4	6	6	4	3	5
DUSSELDORF TO NEW YORK																						3247 N.MI.			
53,000	-56.5	-57	-0	3	4	-53	3	6	7	-52	5	7	9	-57	-0	3	4	-55	2	5	7	4	4	4	4
40,000	-56.5	-55	2	6	8	-54	3	7	10	-52	5	8	10	-54	3	6	8	-54	3	7	9	6	7	5	6
30,000	-44.5	-49	-5	-2	-0	-47	-3	-0	1	-41	4	7	8	-44	1	3	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-1	1	-24	-3	1	3	-14	7	10	11	-19	2	6	8	-21	0	4	6	6	5	4	5
10,000	-4.6	-13	-8	-4	-2	-8	-4	-0	2	1	5	8	9	-4	1	4	6	-6	-1	2	4	6	5	3	5
DUSSELDORF TO OSLO																						533 N.MI.			
53,000	-56.5	-57	-1	2	4	-53	4	6	8	-48	9	11	12	-57	-0	2	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	2	4	-54	3	7	9	-50	7	10	12	-56	0	4	8	-55	2	7	9	6	6	6	5
30,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-1	-42	3	5	7	-45	-1	2	3	-47	-2	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-24	-3	-0	2	-16	6	8	9	-20	1	5	7	-22	-1	3	5	6	5	3	5
10,000	-4.6	-13	-8	-5	-2	-8	-4	-1	1	-0	5	7	8	-5	-1	2	4	-7	-2	1	3	6	5	3	5
DUSSELDORF TO PARIS																						216 N.MI.			
53,000	-56.5	-57	-0	3	5	-54	2	5	6	-51	6	8	9	-58	-1	1	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	5	8	10	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	1	-40	4	7	8	-44	1	3	5	-45	-1	3	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-14	7	10	11	-18	3	6	8	-20	1	5	7	6	5	3	5
10,000	-4.6	-10	-5	-2	0	-6	-1	2	3	2	6	9	10	-2	2	5	7	-4	1	4	6	6	4	3	4
DUSSELDORF TO PRAGUE																						295 N.MI.			
53,000	-56.5	-56	0	4	5	-54	3	5	7	-50	6	9	10	-58	-1	1	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	5	9	10	-56	0	3	5	-55	1	5	7	6	6	5	5
30,000	-44.5	-51	-7	-4	-2	-48	-4	-1	0	-41	4	6	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-23	-2	1	3	-14	7	9	11	-18	3	6	8	-21	1	4	6	6	4	3	5
10,000	-4.6	-12	-7	-3	-1	-7	-2	1	3	2	6	8	10	-3	2	5	6	-5	-0	3	5	6	4	3	5
DUSSELDORF TO ROME																						618 N.MI.			
53,000	-56.5	-56	0	4	5	-55	2	4	6	-53	3	5	7	-59	-2	0	2	-56	1	4	5	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-52	4	7	9	-56	0	3	4	-56	1	4	6	5	6	4	4
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-39	5	8	9	-45	2	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-21	-0	3	4	-15	9	11	12	-17	4	7	9	-19	2	5	7	5	4	3	4
10,000	-4.6	-9	-5	-1	1	-5	-1	2	4	3	8	10	11	-1	3	6	8	-3	1	5	7	5	4	3	4
DUSSELDORF TO SANTA MARIA																						1602 N.MI.			
53,000	-56.5	-59	-2	1	2	-56	0	3	5	-56	1	3	5	-60	-3	-1	0	-58	-1	2	3	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-53	3	6	8	-56	0	3	5	-56	0	4	6	6	6	5	5
30,000	-44.5	-48	-3	-1	0	-45	-1	2	3	-38	6	8	10	-42	3	5	6	-43	1	4	6	4	4	3	4
20,000	-21.2	-22	-1	2	4	-20	1	4	6	-12	9	11	12	-16	6	8	10	-17	4	7	9	5	4	3	4
10,000	-4.6	-6	-1	2	4	-3	1	4	6	4	9	10	12	0	5	7	9	-1	3	6	8	5	4	3	4
DUSSELDORF TO SHANNON																						584 N.MI.			
53,000	-56.5	-57	-1	2	4	-54	3	6	7	-50	7	9	10	-57	-1	2	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	3	5	-55	2	6	9	-51	6	9	12	-56	0	4	6	-55	2	6	9	6	7	6	5
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-41	4	6	7	-44	0	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-23	-2	2	4	-15	7	9	10	-19	3	6	8	-20	1	4	6	6	5	3	5
10,000	-4.6	-10	-5	-1	0	-6	-2	1	3	1	5	8	9	-3	2	5	6	-4	0	3	5	5	4	3	4
DUSSELDORF TO STOCKHOLM																						628 N.MI.			
53,000	-56.5	-57	-1	2	4	-53	4	6	8	-48	9	11	12	-57	-0	3	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	4	-54	3	7	9	-50	7	10	12	-56	1	4	6	-55	2	6	9	6	6	5	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-42	3	5	7	-45	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-25	-3	-0	2	-15	6	8	9	-20	1	5	7	-22	-1	3	5	6	5	3	5
10,000	-4.6	-14	-9	-5	-3	-9	-4	-1	1	0	5	7	8	-6	-1	2	4	-7	-2	1	3	6	5	3	5
DUSSELDORF TO TEHERAN																						2112 N.MI.			
53,000	-56.5	-57	-0	3	5	-55	1	4	5	-55	1	4	5	-59	-2	0	2	-56	0	3	4	5	4	3	4
40,000	-56.5	-57	-1	2	4	-55	1	5	6	-49	8	10	12	-56	0	3	4	-54	2	6	8	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-46	-2	1	2	-36	9	11	12	-43	2	4	6	-44	1	5	7	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-20	1	4	6	-10	11	13	14	-17	4	7	9	-18	3	7	9	5	5	3	4
10,000	-4.6	-11	-7	-3	-1	-4	1	4	5	5	10	12	13	-1	4	7	8	-3	2	5	7	6	5	3	4
DUSSELDORF TO TEL AVIV-JAFFA																						1693 N.MI.			
53,000	-56.5	-58	-1	2	3	-56	0	3	4	-58	-2	0	1	-60	-4	-1	-0	-58	-2	1	3	4	5	3	4
40,000	-56.5	-57	-0	3	5	-56	0	4	5	-49	7	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-50	-5	-3	-2	-46	-2	1	2	-36	9	11	13	-42	3	5	6	-43	1	5	7	4	4	3	5
20,000	-21.2	-25	-4	-0	1	-20	1	4	5	-10	11	13	14	-16	5	8	9	-18	3	7	9	5	4	3	5
10,000	-4.6	-9	-5	-2	0	-4	1	4	5	5	10	12	13	0	5	7	9	-2	3	6	8	5	4	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
DUSSELDORF TO VIENNA																									425 N.MI.
53,000	-56.5	-56	0	4	5	-56	3	5	7	-51	6	8	9	-58	-1	1	3	-55	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	1	4	6	-51	5	8	10	-56	0	3	5	-55	1	5	7	5	6	5	5
30,000	-44.5	-51	-7	-6	-2	-48	-3	-1	1	-40	4	7	8	-44	1	3	5	-46	-1	2	6	4	4	6	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	3	-14	7	10	11	-18	3	6	8	-20	1	4	6	6	6	3	5
10,000	- 4.6	-12	-7	-3	-1	-6	-2	1	3	2	6	9	10	-3	2	5	7	-5	-0	3	5	6	6	3	5
DUSSELDORF TO ZURICH																									260 N.MI.
51,000	-56.5	-56	0	3	5	-54	2	5	6	-51	5	8	9	-58	-2	1	2	-55	2	5	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	0	6	6	-52	5	8	10	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-6	-1	-2	-48	-3	-1	1	-40	4	7	8	-44	1	4	5	-45	-1	3	6	4	4	4	4
20,000	-21.2	-27	-5	-2	0	-22	-1	2	4	-14	8	10	11	-18	3	7	8	-20	1	5	7	6	6	3	5
10,000	- 4.6	-11	-6	-2	-0	-6	-1	2	1	2	7	9	10	-2	2	5	7	-4	0	6	6	6	4	3	5
EAST LONDON TO PORT ELIZABETH																									121 N.MI.
53,000	-56.5	-63	-7	-4	-3	-63	-7	-4	-3	-57	-0	2	4	-60	-4	-1	1	-61	-4	-1	1	6	4	6	4
40,000	-56.5	-54	3	6	7	-56	1	3	5	-52	6	7	8	-53	3	6	8	-54	3	6	7	6	6	6	4
30,000	-44.5	-18	7	9	10	-39	5	7	9	-46	1	4	5	-40	5	7	9	-40	4	7	9	6	3	6	4
20,000	-21.2	-11	10	12	13	-13	8	10	11	-19	3	5	6	-14	7	9	11	-14	7	10	11	3	3	6	3
10,000	- 4.6	6	10	12	13	4	9	11	12	-1	4	6	7	1	8	10	11	3	4	10	12	3	3	3	4
EDMONTON TO LOS ANGELES																									1196 N.MI.
53,000	-56.5	-60	-1	0	2	-57	-1	2	1	-59	-3	-1	0	-62	-5	-3	-1	-59	-3	0	2	5	4	3	4
40,000	-56.5	-57	-0	4	7	-57	-0	3	5	-54	2	5	6	-56	0	4	5	-56	1	3	5	7	6	3	5
30,000	-44.5	-49	-5	-2	-1	-47	-2	-0	1	-38	6	8	9	-42	2	5	6	-44	0	3	5	4	3	3	3
20,000	-21.2	-25	-4	1	1	-21	0	1	5	-11	11	12	13	-16	5	8	10	-18	3	6	8	7	4	2	5
10,000	- 4.6	-9	-5	-0	2	-4	1	6	6	8	13	15	16	-0	4	8	10	-1	3	7	9	7	5	3	5
EDMONTON TO MONTREAL																									1600 N.MI.
51,000	-56.5	-56	0	4	6	-53	3	6	7	-51	4	6	8	-56	0	3	4	-55	2	5	6	5	4	4	4
40,000	-56.5	-54	1	6	9	-54	3	7	9	-52	4	7	9	-53	3	7	8	-51	3	7	8	6	6	4	5
30,000	-44.5	-51	-9	-6	-4	-50	-5	-1	-1	-40	4	7	8	-46	-1	1	3	-47	-1	1	3	4	4	4	4
20,000	-21.2	-31	-12	-7	-5	-26	-5	-1	1	-14	7	10	11	-21	0	4	6	-24	-2	2	4	7	5	4	6
10,000	- 4.6	-20	-15	-10	-7	-11	-6	-2	-0	1	6	8	10	-6	-1	1	5	-9	-4	1	3	8	6	4	4
EDMONTON TO OTTAWA																									1556 N.MI.
51,000	-56.5	-56	0	4	6	-53	1	6	7	-53	4	6	7	-57	-0	2	4	-55	2	5	6	5	6	4	4
40,000	-56.5	-54	2	6	9	-54	3	7	9	-52	4	7	9	-54	3	6	8	-51	3	6	8	6	6	4	5
10,000	-44.5	-51	-8	-6	-4	-50	-5	-3	-1	-40	4	7	8	-46	-1	1	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-11	-12	-7	-5	-26	-4	-1	1	-14	7	10	11	-21	0	4	6	-21	-2	2	5	7	5	4	6
10,000	- 4.6	-20	-15	-10	-7	-11	-6	-2	-0	1	6	9	10	-6	-1	3	6	-9	-4	1	3	8	6	4	6
EDMONTON TO SONDRESTROMFJORD																									1929 N.MI.
51,000	-56.5	-57	-0	4	6	-49	8	11	12	-46	10	12	11	-51	4	6	7	-51	5	8	10	6	4	3	1
40,000	-56.5	-56	1	5	7	-50	6	10	12	-48	9	12	14	-51	6	9	11	-51	5	9	11	6	6	5	5
30,000	-44.5	-56	-12	-9	-7	-52	-7	-4	-3	-45	-0	2	3	-50	-5	-2	-1	-51	-6	-3	-1	4	4	3	5
20,000	-21.2	-19	-18	-14	-12	-12	-11	-7	-5	-20	2	4	6	-28	-7	-1	-1	-30	-9	-4	-1	6	6	4	6
10,000	- 4.6	-26	-21	-17	-14	-18	-13	-9	-7	-4	0	3	4	-14	-9	-5	-3	-15	-11	-6	-3	7	6	4	6
EDMONTON TO TORONTO																									1451 N.MI.
51,000	-56.5	-57	-0	1	5	-54	2	5	6	-54	2	5	6	-58	-1	2	1	-56	1	6	5	5	4	3	4
40,000	-56.5	-54	2	6	8	-54	2	6	8	-53	4	7	4	-54	2	6	7	-54	3	6	7	6	6	4	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-39	5	7	9	-45	-1	2	3	-47	-2	2	6	4	4	4	4
20,000	-21.2	-12	-11	-6	-4	-25	-1	-0	2	-13	8	10	12	-20	1	5	7	-22	-1	3	5	7	5	4	5
10,000	- 4.6	-18	-14	-9	-6	-9	-5	-1	1	1	7	10	11	-5	0	4	6	-7	-3	2	4	8	6	6	6
EDMONTON TO VANCOUVER																									466 N.MI.
51,000	-56.5	-56	0	4	6	-51	4	6	8	-52	5	7	8	-57	-1	2	3	-54	2	5	6	5	4	3	4
40,000	-56.5	-54	1	5	7	-54	2	6	8	-51	4	7	9	-55	1	5	6	-54	2	6	8	6	6	5	5
10,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-1	-41	1	6	7	-45	-1	2	3	-47	-2	1	1	4	3	3	4
20,000	-21.2	-10	-9	-4	-1	-25	-1	-0	2	-15	6	9	10	-21	0	4	6	-21	-1	3	5	7	5	3	5
10,000	- 4.6	-15	-11	-5	-3	-9	-4	-1	1	2	7	9	10	-5	-1	3	5	-7	-2	2	4	8	5	4	5
EDMONTON TO WINNIPEG																									642 N.MI.
51,000	-56.5	-56	1	4	6	-51	1	6	7	-52	4	6	7	-57	-0	2	3	-55	2	5	6	5	4	3	4
40,000	-56.5	-55	2	6	8	-54	2	6	8	-53	4	7	9	-55	2	5	7	-54	2	6	8	6	6	4	5
30,000	-44.5	-53	-9	-6	-5	-50	-5	-1	-2	-40	4	6	7	-46	-1	1	2	-47	-3	1	3	6	4	3	4
20,000	-21.2	-13	-12	-7	-5	-25	-4	-0	1	-14	7	9	10	-22	-0	1	5	-23	-2	2	4	7	5	3	6
10,000	- 4.6	-19	-14	-9	-6	-9	-5	-1	1	2	7	10	11	-6	-1	3	5	-8	-3	1	4	8	5	4	6
EL ADEM TO ENTEBBE																									1969 N.MI.
53,000	-56.5	-74	-18	-16	-15	-71	-17	-15	-14	-75	-18	-17	-16	-75	-18	-17	-16	-74	-18	-16	-15	3	3	3	1
40,000	-56.5	-54	3	5	5	-53	4	6	7	-51	6	7	7	-53	4	5	6	-53	4	6	6	3	3	2	2
30,000	-44.5	-37	7	9	10	-31	12	11	14	-29	15	16	17	-33	12	13	14	-33	11	14	15	2	2	2	2
20,000	-21.2	-9	12	11	14	-8	13	15	15	-4	17	18	18	-7	14	15	16	-7	14	16	17	2	2	2	1
10,000	- 4.6	7	11	11	14	8	11	14	15	12	16	17	18	9	14	15	16	9	14	15	14	2	2	2	2
EL ADEM TO KHARTOUM																									1084 N.MI.
53,000	-56.5	-71	-14	-12	-11	-69	-13	-11	-10	-74	-17	-15	-14	-73	-16	-14	-13	-72	-15	-13	-12	3	3	3	3
40,000	-56.5	-54	1	5	6	-56	3	5	6	-49	7	9	10	-54	3	6	5	-53	6	6	7	3	4	2	2
30,000	-44.5	-41	4	5	6	-36	9	10	11	-28	16	18	19	-35	10	11	12	-35	10	12	16	2	2	2	2
20,000	-21.2	-15	8	10	11	-11	11	12	11	-4	17	18	19	-8	13	14	14	-9	12	14	16	3	3	2	2
10,000	- 4.6	3	8	10	11	6	11	11	14	11	18	19	20	8	13	14	15	8	12	15	16	3	3	2	2
EL ADEM TO LONDON																									1590 N.MI.
51,000	-56.5	-58	-1	2	3	-56	0	2	6	-58	-2	0	2	-60	-4	-2	-0	-58	-2	1	3	5	6	3	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-50	6	9	10	-56	0	3	4	-55	1	5	7	5	5	4	4
10,000	-44.5	-49	-6	-2	-1	-46	-1	1	2	-17	8	10	11	-42	3	5	6	-41	1	5	7	4	4	3	4
20,000	-21.2	-24	-1	0	2	-20	2	4	6	-11	11	13	14	-16	6	8	9	-17	6	7	9	5	6	3	3
10,000	- 4.6	-8	-3	0	2	-1	1	4	6	6	10	12	13	0	5	7	9	-1	1	7	9	5	6	3	4
EL ADEM TO SHARJAH																									1697 N.MI.
51,000	-56.5	-67	-10	-8	-7	-65	-9	-7	-6	-72	-15	-13	-12	-69	-13	-10	-9	-68	-12	-9	-8	3	3	3	3
40,000	-56.5	-54	2	5	6	-56	2	5	7	-47	10	12	13	-55	2	6	5	-52	4	7	9	4	4	3	3
30,000	-44.5	-61	2	6	5	-39	5	7	9	-26	18	20	21	-37	8	10	11	-36	8	12	16	3	3	3	3
20,000	-21.2	-17	5	7	8	-13	8	10	11	-3	18	20	21	-10	11	13	13	-11	10	16	16	3	3	3	2
10,000	- 4.6	-0	4	6	7	4	9	11	12	15	19	21	21	7	12	13	14	6	11	14	16	3	3	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																				STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
EL PASO TO MEXICO CITY																									840 N.MI.
51,000	-56.5	-72	-16	-14	-13	-70	-14	-12	-10	-72	-16	-14	-13	-75	-19	-17	-16	-72	-16	-13	-12	3	3	2	3
40,000	-56.5	-56	0	1	4	-57	-0	2	3	-55	2	3	3	-55	2	3	4	-56	1	3	4	4	3	2	2
30,000	-44.5	-39	5	7	7	-39	6	7	8	-32	12	13	14	-35	10	11	12	-36	8	10	11	2	2	2	2
20,000	-21.2	-12	9	11	12	-10	11	13	13	-6	15	16	17	-8	13	15	16	-9	12	14	14	3	3	1	2
10,000	-4.6	5	9	11	13	8	13	15	16	11	15	16	17	9	14	15	16	8	13	14	15	3	3	1	2
ENTEBBE TO JOHANNESBURG																									1590 N.MI.
51,000	-56.5	-76	-19	-17	-16	-75	-19	-16	-15	-70	-14	-12	-11	-73	-16	-14	-11	-74	-17	-14	-13	4	4	3	3
40,000	-56.5	-52	4	6	7	-52	5	7	8	-52	5	6	7	-52	4	6	7	-52	5	6	7	3	3	3	3
30,000	-44.5	-30	14	15	16	-32	13	15	15	-33	11	13	14	-32	12	14	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-6	15	16	17	-7	14	16	17	-7	14	16	16	-6	15	16	17	1	2	2	2
10,000	-4.6	10	15	16	16	9	13	15	15	6	10	12	13	9	14	15	16	8	13	14	15	2	2	2	2
ENTEBBE TO KHARTOUM																									933 N.MI.
51,000	-56.5	-78	-21	-19	-18	-78	-21	-19	-18	-76	-20	-18	-17	-77	-21	-19	-18	-77	-21	-19	-18	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-53	4	5	6	-52	5	6	7	-52	4	5	7	2	3	2	2
30,000	-44.5	-31	12	13	14	-30	15	16	16	-31	14	15	16	-30	14	15	16	-31	14	15	16	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	16	17	18	-5	16	17	18	-6	16	16	17	-5	16	17	18	1	2	1	1
10,000	-4.6	10	15	16	17	10	15	16	16	11	15	16	17	10	15	16	16	10	15	16	17	2	2	1	1
ENTEBBE TO KISUMU																									137 N.MI.
55,000	-56.5	-78	-22	-20	-19	-78	-21	-19	-18	-75	-19	-17	-16	-77	-21	-19	-18	-77	-21	-18	-17	3	3	3	3
40,000	-56.5	-51	1	5	5	-52	5	7	6	-53	4	5	6	-52	5	6	7	-52	4	6	7	2	3	2	2
30,000	-44.5	-31	14	15	15	-29	15	16	17	-32	13	14	15	-30	15	16	16	-30	14	15	16	2	2	2	2
20,000	-21.2	-4	17	18	16	-4	17	18	19	-5	16	17	18	-6	16	17	17	-5	16	18	18	1	1	1	1
10,000	-4.6	10	15	16	16	10	14	15	16	9	14	15	15	10	15	16	16	10	14	15	16	2	1	2	1
ENTEBBE TO NAIROBI																									281 N.MI.
51,000	-56.5	-78	-22	-20	-19	-76	-21	-19	-18	-75	-19	-17	-16	-77	-21	-19	-18	-77	-21	-18	-17	3	3	3	3
40,000	-56.5	-53	3	5	6	-52	5	7	8	-53	4	5	6	-52	5	6	7	-52	4	6	7	2	3	2	2
30,000	-44.5	-31	14	15	16	-29	15	16	17	-32	11	14	15	-30	14	16	16	-30	14	15	16	2	2	2	2
20,000	-21.2	-4	17	16	16	-4	17	18	19	-5	16	17	18	-6	14	17	17	-5	16	18	18	1	1	1	1
10,000	-4.6	10	15	16	16	10	14	15	16	9	14	15	15	10	15	16	16	10	14	15	16	1	1	2	1
ENTEBBE TO ROME																									2726 N.MI.
55,000	-56.5	-70	-14	-12	-11	-70	-13	-11	-10	-72	-16	-14	-13	-72	-15	-13	-12	-71	-14	-12	-11	3	3	3	3
40,000	-56.5	-54	2	4	5	-54	3	5	7	-51	6	7	8	-54	3	4	5	-53	3	5	6	3	4	2	2
30,000	-44.5	-40	5	6	7	-36	9	10	11	-31	14	15	16	-35	10	11	12	-35	9	12	13	2	2	2	2
20,000	-21.2	-13	9	10	11	-10	11	13	13	-6	16	17	18	-9	12	14	14	-9	12	14	15	3	2	2	2
10,000	-4.6	4	6	10	11	6	11	12	11	11	15	17	17	8	12	13	14	7	12	14	15	3	2	2	2
ENTEBBE TO SALISBURY																									1082 N.MI.
51,000	-56.5	-77	-21	-18	-17	-77	-20	-18	-16	-72	-16	-14	-13	-75	-18	-16	-15	-75	-19	-16	-15	3	4	3	3
40,000	-56.5	-52	4	6	7	-52	5	7	8	-52	5	6	7	-52	4	6	7	-52	5	7	6	3	3	2	2
30,000	-44.5	-30	14	16	16	-31	14	15	16	-31	12	13	14	-31	13	15	15	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	17	17	18	-5	16	17	18	-6	14	17	17	-6	15	16	17	-5	16	17	17	1	2	2	2
10,000	-4.6	10	14	15	16	9	14	15	15	7	12	11	14	10	14	16	16	9	14	15	16	1	2	2	2
FAIRBANKS TO SEATTLE																									1528 N.MI.
55,000	-56.5	-54	3	6	6	-51	6	9	10	-49	7	9	10	-53	1	6	7	-52	5	7	9	5	4	3	4
40,000	-56.5	-54	2	7	9	-52	4	9	10	-51	6	9	11	-53	1	7	9	-53	4	8	10	7	6	5	5
30,000	-44.5	-52	-7	-5	-3	-50	-5	-3	-2	-41	1	4	5	-47	-3	-0	1	-48	-4	-0	2	4	3	4	4
20,000	-21.2	-10	-9	-5	-2	-27	-6	-3	-1	-16	5	7	9	-24	-3	1	3	-25	-3	1	3	7	5	4	5
10,000	-4.6	-15	-10	-6	-3	-12	-7	-4	-1	-1	4	6	7	-8	-4	-1	1	-9	-4	-0	2	7	4	3	4
FORTALEZA TO LEOPOLDVILLE																									3229 N.MI.
55,000	-56.5	-78	-21	-19	-16	-78	-21	-19	-14	-73	-17	-15	-14	-76	-19	-18	-17	-76	-20	-17	-16	1	3	3	3
40,000	-56.5	-54	2	4	5	-52	4	6	8	-53	3	5	6	-51	4	5	4	-51	3	6	7	3	3	2	2
30,000	-44.5	-32	11	14	14	-30	15	16	17	-32	12	14	14	-31	11	15	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	16	17	14	-5	16	14	14	-6	15	17	17	-6	16	17	17	-5	16	17	18	2	2	2	2
10,000	-4.6	10	14	15	16	10	14	16	16	8	13	14	14	10	15	16	17	9	14	15	16	1	2	2	2
FORTALEZA TO PANAMA																									2562 N.MI.
55,000	-56.5	-78	-22	-20	-19	-78	-21	-19	-18	-73	-16	-14	-11	-77	-20	-19	-18	-76	-20	-17	-16	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-54	2	4	5	-54	3	4	5	-51	3	5	6	2	3	2	2
30,000	-44.5	-32	12	11	14	-10	15	16	17	-32	11	14	15	-30	14	15	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	17	18	18	-4	17	18	19	-7	14	15	16	-6	16	17	17	-5	16	17	18	2	2	1	1
10,000	-4.6	10	14	16	16	10	15	16	16	9	14	15	15	10	15	16	17	10	14	16	16	2	2	2	2
FORTALEZA TO RECIFE																									339 N.MI.
55,000	-56.5	-78	-21	-19	-17	-78	-21	-19	-14	-71	-15	-13	-11	-75	-19	-17	-16	-75	-19	-16	-14	4	3	3	3
40,000	-56.5	-54	2	4	5	-52	4	7	8	-53	4	5	6	-53	1	5	6	-53	3	6	7	3	4	2	2
30,000	-44.5	-12	13	14	15	-10	15	16	17	-12	13	14	15	-31	14	15	16	-31	14	15	16	2	2	2	2
20,000	-21.2	-5	17	16	18	-4	17	18	19	-7	14	15	16	-6	16	17	17	-5	16	17	18	2	2	2	2
10,000	-4.6	10	14	16	16	10	14	16	16	8	11	14	15	10	15	16	17	10	14	16	16	2	2	2	2
FORT DE FRANCE TO POINTE A PITRE																									103 N.MI.
55,000	-56.5	-77	-21	-19	-18	-78	-21	-19	-19	-73	-16	-15	-14	-77	-20	-19	-18	-76	-20	-17	-16	3	3	2	3
40,000	-56.5	-54	3	5	6	-54	3	4	5	-55	1	2	3	-54	3	4	4	-54	2	4	4	3	2	2	2
30,000	-44.5	-34	10	12	12	-33	12	13	13	-34	11	12	12	-12	11	14	14	-33	11	13	13	2	2	1	2
20,000	-21.2	-7	14	15	16	-7	14	16	16	-7	14	15	16	-6	16	16	17	-7	15	16	16	2	2	1	1
10,000	-4.6	8	12	14	14	8	13	14	15	9	14	14	15	9	14	15	15	9	13	14	15	2	2	1	1
FORT DE FRANCE TO ST. LUCIA																									52 N.MI.
55,000	-56.5	-77	-21	-19	-18	-78	-22	-20	-19	-73	-16	-15	-14	-77	-21	-19	-18	-76	-20	-18	-16	3	3	2	3
40,000	-56.5	-54	3	5	6	-54	3	4	5	-55	1	2	3	-54	3	4	4	-54	2	4	5	3	2	2	2
30,000	-44.5	-14	11	12	13	-32	12	13	14	-34	11	12	12	-32	13	14	14	-13	12	13	14	2	2	2	2
20,000	-21.2	-7	14	15	16	-7	15	16	17	-7	14	15	16	-6	16	17	17	-6	15	16	16	2	2	1	1
10,000	-4.6	8	13	14	15	9	13	15	15	9	14	15	15	9	14	15	15	9	11	14	15	2	2	1	1
FT. LAUDERDALE TO NASSAU																									158 N.MI.
55,000	-56.5	-74	-17	-15	-15	-71	-15	-13	-12	-71	-14	-13	-12	-75	-19	-17	-15	-73	-16	-15	-14	3	3	2	3
40,000	-56.5	-56	1	2	3	-55	1	3	4	-57	-0	1	1	-55	2	3	4	-56	1	2	3	3	3	1	2
30,000	-44.5	-38	7	8	9	-37	8	9	10	-33	11	12	13	-34	11	12	13	-35	9	11	11	2	2	1	2
20,000	-21.2	-10	11	13	14	-9	12	14	14	-7	14	15	16	-6	15	16	17	-8	13	15	16	2	2	1	2
10,000	-4.6	6	10	12	13	6	11	12	11	9	13	14	14	8	13	14	15	7	12	13	13	2	3	1	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATI JAN	APR	JUL	OCT
FRANKFURT TO GENEVA																								248 N.MI.	
53,000	-56.5	-56	0	3	5	-55	2	5	6	-52	4	7	8	-58	-2	1	2	-55	1	4	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-0	4	6	-52	4	7	9	-56	0	3	5	-56	1	4	7	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-40	5	7	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-0	2	4	-15	8	10	11	-17	4	7	8	-20	2	5	7	5	4	3	4
10,000	- 4.6	-10	-5	-2	0	-6	-1	2	3	3	7	9	11	-2	3	6	7	-4	1	5	6	5	4	3	4
FRANKFURT TO GLASGOW																								579 N.MI.	
53,000	-56.5	-57	-1	3	4	-53	3	6	7	-49	7	10	11	-57	-1	2	4	-54	2	6	8	5	4	4	4
40,000	-56.5	-58	-2	2	5	-55	2	6	9	-50	6	10	12	-56	0	4	6	-55	2	6	9	6	7	8	5
30,000	-44.5	-51	-6	-3	-2	-48	-3	-1	1	-41	3	6	7	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-23	-2	1	3	-15	6	9	10	-19	2	6	7	-21	0	4	6	6	5	3	5
10,000	- 4.6	-10	-6	-2	-0	-7	-2	1	2	1	5	7	9	-3	1	4	6	-5	-0	3	5	5	4	3	5
FRANKFURT TO HAMBURG																								222 N.MI.	
53,000	-56.5	-56	0	3	5	-54	3	6	7	-50	7	9	10	-57	-1	2	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	5	8	-51	6	9	11	-56	0	3	5	-55	1	6	8	6	6	5	5
30,000	-44.5	-51	-7	-4	-2	-48	-4	-1	0	-41	4	6	7	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-0	-23	-2	1	3	-16	7	9	10	-19	3	6	8	-21	0	4	6	6	4	3	5
10,000	- 4.6	-12	-7	-3	-1	-7	-2	1	2	1	6	8	9	-4	1	4	6	-5	-1	3	5	6	4	3	5
FRANKFURT TO HELSINKI																								830 N.MI.	
53,000	-56.5	-57	-0	3	5	-53	4	6	8	-48	9	11	12	-56	0	3	4	-53	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	2	6	9	-50	6	10	12	-56	1	4	6	-55	2	6	8	5	6	5	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-41	3	6	7	-45	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-30	-9	-5	-2	-25	-3	-0	2	-15	6	8	10	-20	1	5	7	-22	-1	3	5	4	5	3	5
10,000	- 4.6	-14	-10	-6	-3	-9	-4	-1	1	0	5	7	8	-6	-1	2	4	-7	-3	1	3	6	5	3	5
FRANKFURT TO ISTANBUL																								1006 N.MI.	
53,000	-56.5	-56	1	4	5	-55	2	4	6	-54	3	5	6	-59	-2	0	2	-56	1	4	5	5	4	5	4
40,000	-56.5	-58	-1	2	4	-56	0	4	5	-50	6	9	11	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-47	-3	-0	1	-38	6	9	10	-43	2	4	5	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-2	-0	-22	-0	3	4	-12	9	11	12	-17	4	7	8	-19	2	5	7	5	4	3	4
10,000	- 4.6	-11	-7	-3	-2	-5	-1	2	4	3	8	10	11	-2	3	6	7	-4	1	4	6	5	4	3	4
FRANKFURT TO KEFLAVIK																								1295 N.MI.	
53,000	-56.5	-58	-1	3	4	-51	5	8	9	-47	9	11	13	-56	1	4	5	-53	3	7	9	5	4	3	4
40,000	-56.5	-57	-1	4	6	-52	4	9	11	-49	8	11	13	-55	2	6	8	-53	3	8	10	6	7	6	6
30,000	-44.5	-52	-7	-4	-3	-48	-4	-1	1	-43	2	4	6	-46	-1	2	3	-47	-2	1	3	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-25	-4	-1	1	-17	4	7	8	-21	0	4	6	-23	-2	2	4	6	5	4	5
10,000	- 4.6	-12	-7	-4	-2	-9	-5	-2	-0	-1	3	5	7	-5	-1	2	4	-7	-2	1	3	5	5	3	5
FRANKFURT TO KHARTOUM																								2372 N.MI.	
53,000	-56.5	-64	-7	-5	-3	-63	-6	-4	-3	-66	-9	-7	-6	-66	-10	-8	-6	-65	-8	-6	-4	4	3	3	3
40,000	-56.5	-56	1	4	5	-56	1	4	5	-49	7	9	10	-55	1	3	5	-54	3	5	7	4	4	3	3
30,000	-44.5	-45	-1	1	2	-41	3	5	6	-32	12	14	15	-39	6	8	9	-39	5	8	10	3	3	3	3
20,000	-21.2	-19	2	5	6	-15	6	8	9	-7	14	15	16	-12	9	11	12	-14	8	10	12	4	3	2	3
10,000	- 4.6	-3	2	4	6	1	6	8	9	9	14	15	16	4	9	11	12	3	8	10	12	4	3	2	3
FRANKFURT TO LEOPOLDVILLE																								3284 N.MI.	
53,000	-56.5	-69	-12	-10	-9	-68	-11	-9	-8	-70	-13	-11	-10	-70	-14	-12	-11	-69	-13	-10	-9	5	3	3	3
40,000	-56.5	-55	2	4	5	-54	3	5	7	-52	5	6	7	-54	3	4	5	-54	3	5	6	4	4	2	3
30,000	-44.5	-41	4	5	6	-37	8	9	10	-33	12	13	14	-36	9	11	11	-37	8	10	12	2	2	2	2
20,000	-21.2	-14	7	9	10	-11	10	11	12	-7	14	16	16	-10	11	13	14	-11	11	13	14	3	3	2	2
10,000	- 4.6	2	7	9	10	5	10	11	12	10	14	16	17	6	11	12	13	6	10	13	14	3	3	2	2
FRANKFURT TO LISBON																								1012 N.MI.	
53,000	-56.5	-58	-2	2	3	-56	0	3	5	-56	1	3	5	-60	-3	-1	1	-57	-1	2	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	3	5	-53	3	6	8	-56	0	3	5	-56	0	4	6	6	6	4	4
30,000	-44.5	-48	-4	-1	-0	-46	-2	1	2	-38	6	8	10	-42	2	4	6	-44	1	4	6	4	4	3	4
20,000	-21.2	-23	-2	1	3	-20	1	4	5	-12	9	11	12	-16	5	8	9	-18	3	7	8	5	4	3	4
10,000	- 4.6	-7	-2	1	3	-3	1	4	5	5	9	11	13	-0	4	7	8	-1	3	7	8	5	4	3	4
FRANKFURT TO LONDON																								353 N.MI.	
53,000	-56.5	-57	-0	3	5	-54	3	5	7	-51	6	8	10	-58	-1	1	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	1	5	8	-51	5	9	11	-56	0	3	5	-55	1	5	8	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	1	-41	4	6	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-14	7	9	10	-18	3	6	8	-20	1	4	6	6	5	3	5
10,000	- 4.6	-10	-6	-2	0	-6	-2	1	1	2	6	8	10	-2	2	5	7	-4	0	4	4	6	4	3	4
FRANKFURT TO LOS ANGELES																								5030 N.MI.	
53,000	-56.5	-58	-1	2	4	-52	5	7	9	-50	6	8	9	-56	1	3	4	-54	2	5	7	5	4	3	4
40,000	-56.5	-56	1	5	8	-52	4	8	10	-50	7	10	11	-53	3	7	9	-53	4	7	10	6	6	5	5
30,000	-44.5	-53	-8	-5	-4	-49	-4	-2	-0	-42	3	5	6	-46	-2	1	3	-47	-3	1	2	4	4	4	4
20,000	-21.2	-31	-10	-6	-4	-27	-5	-2	0	-16	5	8	9	-22	-1	2	4	-24	-3	1	3	6	5	4	4
10,000	- 4.6	-17	-12	-8	-6	-11	-7	-3	-1	0	5	7	8	-7	-3	1	3	-9	-4	0	2	6	5	4	6
FRANKFURT TO MADRID																								768 N.MI.	
53,000	-56.5	-58	-1	2	4	-56	1	4	5	-55	2	4	5	-59	-3	-0	1	-57	-0	2	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	3	5	-53	3	6	8	-56	0	3	5	-56	0	4	6	6	6	4	4
30,000	-44.5	-49	-4	-2	-0	-47	-2	1	2	-39	6	8	9	-42	2	5	6	-44	0	4	6	4	4	3	4
20,000	-21.2	-24	-3	1	2	-20	1	3	5	-12	9	11	12	-16	5	8	9	-18	3	6	8	5	4	3	4
10,000	- 4.6	-7	-3	1	2	-4	1	4	5	4	9	11	12	-1	4	7	8	-2	3	6	8	5	4	3	4
FRANKFURT TO MILAN																								264 N.MI.	
53,000	-56.5	-56	0	4	5	-55	2	5	6	-52	4	7	8	-58	-2	1	2	-55	1	4	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-0	3	5	-52	4	7	9	-56	0	3	5	-56	0	4	6	6	6	5	4
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-40	5	7	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-22	-0	2	4	-13	8	10	11	-17	4	7	8	-20	2	5	7	5	4	3	4
10,000	- 4.6	-10	-5	-2	0	-6	-1	2	3	3	7	10	11	-2	3	6	7	-4	1	5	6	5	4	3	4
FRANKFURT TO MONTREAL																								3160 N.MI.	
53,000	-56.5	-56	0	3	5	-52	4	7	8	-50	6	9	10	-55	1	4	5	-54	3	6	8	5	4	4	4
40,000	-56.5	-54	2	6	9	-53	4	8	10	-51	6	9	11	-54	3	7	9	-53	4	8	10	6	7	5	6
30,000	-44.5	-50	-6	-3	-1	-48	-3	-1	1	-42	3	6	7	-45	-0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-3	-1	-25	-4	-0	2	-15	6	9	10	-20	1	4	6	-22	-1	3	5	7	5	4	5
10,000	- 4.6	-14	-10	-5	-3	-10	-5	-1	0	-0	4	7	8	-5	-1	3	5	-7	-3	1	3	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES.

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	D50*	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
FRANKFURT TO MOSCOW																									1091 N.MI.
55,000	-56.5	-56	0	4	5	-53	4	6	7	-48	8	11	12	-56	0	3	4	-53	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-55	2	5	7	-50	6	9	11	-56	1	8	6	-55	2	6	8	5	5	5	5
30,000	-44.5	-53	-8	-5	-4	-49	-4	-1	0	-41	4	7	8	-45	-0	2	4	-47	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-26	-3	1	3	-14	7	9	10	-20	2	5	7	-22	-1	3	5	6	5	3	5
10,000	-4.6	-14	-10	-6	-4	-8	-3	0	2	0	5	7	8	-5	-1	3	5	-7	-2	1	3	6	5	3	5
FRANKFURT TO MUNICH																									168 N.MI.
55,000	-56.5	-56	1	4	6	-54	2	5	6	-51	5	8	9	-58	-2	1	2	-55	2	5	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	0	4	6	-52	5	8	10	-56	0	3	5	-56	1	5	7	5	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	1	-40	4	7	8	-43	1	4	5	-46	-1	3	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-22	-1	2	3	-13	8	10	11	-18	3	7	8	-20	1	5	7	6	4	3	5
10,000	-4.6	-11	-7	-3	-1	-6	-2	1	3	2	7	9	10	-2	2	6	7	-4	0	4	6	6	4	3	5
FRANKFURT TO NAIROBI																									3408 N.MI.
55,000	-56.5	-68	-12	-10	-8	-67	-11	-9	-8	-69	-13	-11	-10	-70	-13	-11	-10	-69	-12	-10	-9	3	3	3	3
40,000	-56.5	-55	2	4	5	-54	2	5	4	-51	6	8	9	-54	2	4	5	-53	3	5	7	3	4	3	3
30,000	-44.5	-41	3	5	6	-38	7	9	10	-32	13	14	15	-36	9	10	11	-37	8	10	12	3	3	3	3
20,000	-21.2	-15	7	9	10	-12	9	11	12	-7	15	16	17	-10	11	13	33	-11	50	33	14	3	3	2	2
10,000	-4.6	1	4	8	9	4	9	11	12	10	14	16	16	6	11	12	13	5	10	12	13	3	3	2	2
FRANKFURT TO NEW YORK																									3340 N.MI.
55,000	-56.5	-57	-0	3	4	-54	3	6	7	-52	4	7	8	-57	-0	3	4	-55	2	5	6	4	4	4	4
40,000	-56.5	-55	1	6	8	-54	2	7	9	-52	5	8	10	-54	2	6	8	-54	3	7	9	6	7	5	5
30,000	-44.5	-49	-5	-2	-0	-47	-3	-0	1	-40	4	7	8	-44	1	3	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-1	1	-26	-2	1	3	-14	7	10	11	-19	2	6	8	-21	0	4	6	6	5	4	5
10,000	-4.6	-13	-8	-4	-1	-8	-3	-0	2	1	6	8	9	-4	1	4	8	-6	-1	2	4	6	5	3	5
FRANKFURT TO OSLO																									596 N.MI.
55,000	-56.5	-57	-1	2	4	-53	4	6	8	-48	8	10	12	-57	-0	2	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	2	4	-54	2	7	9	-50	7	10	12	-56	0	4	6	-55	2	6	9	6	6	5	5
30,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-0	-42	3	5	7	-45	-1	2	4	-47	-2	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-26	-3	0	2	-15	6	8	9	-20	1	5	7	-22	-1	3	5	6	5	3	5
10,000	-4.6	-13	-8	-5	-2	-8	-4	-0	1	0	5	7	8	-5	-1	3	4	-7	-2	2	4	6	5	3	5
FRANKFURT TO PARIS																									247 N.MI.
55,000	-56.5	-57	-0	3	5	-54	2	5	6	-51	5	8	9	-58	-2	1	3	-55	1	5	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-54	0	4	7	-52	5	8	10	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-0	1	-40	4	7	8	-44	1	4	5	-45	-1	3	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-14	8	10	11	-18	3	7	8	-20	1	5	7	6	4	3	5
10,000	-4.6	-10	-6	-2	0	-6	-1	2	3	2	7	9	10	-2	3	6	7	-4	1	4	6	6	4	3	4
FRANKFURT TO PRAGUE																									220 N.MI.
55,000	-56.5	-56	1	4	6	-54	3	5	7	-50	6	8	10	-58	-1	1	3	-55	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	1	4	6	-51	5	8	10	-56	0	3	5	-56	1	5	7	5	6	5	5
30,000	-44.5	-51	-7	-4	-2	-48	-4	-1	0	-40	4	7	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-23	-1	2	3	-14	7	10	11	-14	3	6	8	-20	1	4	6	6	4	3	5
10,000	-4.6	-12	-7	-3	-1	-7	-2	1	3	2	4	9	10	-3	2	5	7	-5	-0	3	5	6	4	3	5
FRANKFURT TO RIO DE JANEIRO																									5163 N.MI.
55,000	-56.5	-71	-14	-12	-11	-70	-14	-11	-10	-68	-12	-10	-8	-71	-14	-12	-11	-70	-13	-11	-50	4	3	3	3
40,000	-56.5	-55	1	4	5	-55	2	5	4	-53	4	5	6	-54	2	4	5	-54	2	4	5	4	4	3	3
30,000	-44.5	-38	6	8	9	-36	8	10	11	-34	10	12	13	-35	10	11	12	-36	9	51	12	3	3	2	3
20,000	-21.2	-12	9	11	12	-13	11	12	13	-8	13	14	15	-9	12	14	15	-10	11	13	14	3	2	2	2
10,000	-4.6	4	9	11	12	5	10	12	13	8	13	14	15	7	12	13	14	6	11	13	14	3	2	2	2
FRANKFURT TO ROME																									522 N.MI.
55,000	-56.5	-56	0	4	6	-55	1	4	4	-54	3	5	6	-59	-2	0	1	-56	1	3	5	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-52	4	7	9	-56	0	3	4	-56	1	4	6	5	5	4	4
30,000	-44.5	-50	-6	-3	-1	-47	-3	0	2	-39	6	8	9	-43	2	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-21	0	3	4	-12	9	11	12	-17	4	7	9	-19	2	6	7	5	4	3	4
10,000	-4.6	-9	-5	-1	1	-5	-0	2	4	4	8	11	12	-1	3	6	8	-3	2	5	7	5	4	3	4
FRANKFURT TO SAN FRANCISCO																									4936 N.MI.
55,000	-56.5	-58	-1	3	5	-51	6	8	10	-49	8	10	11	-55	1	4	5	-53	3	6	8	4	4	3	4
40,000	-56.5	-56	0	5	7	-52	5	9	11	-49	7	10	12	-53	4	7	9	-53	4	8	10	6	6	5	5
30,000	-44.5	-53	-9	-6	-5	-49	-5	-2	-1	-43	2	4	5	-47	-3	0	2	-48	-4	-0	2	4	4	4	4
20,000	-21.2	-33	-11	-7	-5	-28	-7	-3	-1	-17	4	7	8	-26	-3	1	3	-25	-4	0	2	6	5	4	6
10,000	-4.6	-18	-13	-9	-7	-13	-8	-4	-2	-1	3	6	7	-9	-4	-0	2	-10	-5	-1	1	6	5	4	6
FRANKFURT TO SANTA MARIA																									1645 N.MI.
55,000	-56.5	-59	-2	1	2	-56	0	3	4	-56	0	3	4	-60	-4	-1	0	-58	-1	2	3	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	3	5	-53	3	6	8	-57	-0	3	5	-56	0	4	6	6	6	5	4
10,000	-44.5	-48	-3	-1	1	-45	-1	2	3	-38	6	9	10	-42	3	5	7	-43	1	4	6	4	4	3	4
20,000	-21.2	-22	-1	2	4	-20	2	4	6	-12	9	11	12	-15	6	9	10	-17	4	7	9	5	4	3	4
10,000	-4.6	-6	-1	2	4	-3	2	4	6	4	9	11	12	0	5	7	9	-1	4	7	8	5	4	3	4
FRANKFURT TO SHANNON																									672 N.MI.
55,000	-56.5	-57	-1	3	4	-54	3	5	7	-50	6	9	10	-58	-1	2	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	3	5	-55	1	6	8	-51	6	9	11	-56	0	4	6	-55	1	6	8	6	7	5	5
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-41	4	6	8	-44	0	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-23	-1	2	4	-14	7	9	10	-18	3	6	8	-20	1	4	6	6	5	3	5
10,000	-4.6	-10	-5	-1	0	-6	-2	1	3	1	6	8	9	-3	2	5	7	-4	0	4	5	5	4	3	4
FRANKFURT TO STOCKHOLM																									660 N.MI.
55,000	-56.5	-57	-0	3	4	-53	4	6	8	-48	8	11	12	-57	-0	2	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	2	6	9	-50	6	10	12	-56	0	4	6	-55	2	6	9	5	6	5	5
30,000	-44.5	-52	-8	-5	-3	-49	-5	-2	-1	-41	3	6	7	-45	-1	2	4	-47	-2	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-26	-3	0	2	-15	6	8	10	-20	1	5	7	-22	-1	3	5	6	5	3	5
10,000	-4.6	-14	-9	-5	-3	-8	-4	-1	1	0	5	7	8	-5	-1	2	4	-7	-2	1	3	6	5	3	5
FRANKFURT TO TEHERAN																									2033 N.MI.
55,000	-56.5	-57	-0	3	5	-55	1	4	5	-56	1	3	4	-59	-2	0	1	-57	-0	2	4	4	4	3	4
40,000	-56.5	-57	-1	3	4	-55	1	4	6	-49	8	11	12	-56	0	3	4	-54	2	6	8	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-46	-2	1	2	-36	9	11	13	-43	2	4	6	-44	1	5	7	4	4	4	4
20,000	-21.2	-26	-5	-1	0	-20	1	4	6	-10	11	13	14	-17	5	7	9	-18	3	7	9	5	5	3	4
10,000	-4.6	-11	-6	-3	-1	-4	1	4	6	5	10	12	13	-1	4	7	8	-2	2	6	8	5	4	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
FRANKFURT TO TEL AVIV-JAFFA																									1595 N.MI.
53,000	-56.5	-58	-1	2	3	-56	0	2	4	-59	-3	-0	1	-61	-4	-2	-0	-58	-2	1	2	4	3	3	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-49	8	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-50	-5	-1	-1	-46	-1	1	2	-35	9	12	13	-42	3	5	6	-45	1	5	7	4	4	3	3
20,000	-21.2	-25	-3	-0	1	-20	1	4	5	-10	11	13	14	-16	6	8	9	-18	4	7	9	4	4	3	3
10,000	- 4.6	-9	-4	-1	0	-4	1	4	6	6	10	12	11	1	5	8	9	-2	3	6	8	4	4	3	4
FRANKFURT TO TOKYO																									5051 N.MI.
53,000	-56.5	-55	2	5	7	-50	6	9	10	-48	9	11	13	-55	3	6	7	-51	5	8	10	5	4	4	4
40,000	-56.5	-57	-1	3	5	-51	6	10	12	-49	8	12	14	-52	4	7	9	-52	4	9	11	5	6	5	5
30,000	-44.5	-54	-10	-7	-6	-49	-4	-1	0	-37	7	11	12	-46	-2	1	3	-47	-2	3	6	4	5	5	5
20,000	-21.2	-34	-11	-9	-7	-27	-6	-2	0	-13	8	11	13	-23	-2	2	4	-24	-3	2	5	5	6	4	6
10,000	- 4.6	-21	-16	-12	-10	-11	-8	-4	-2	2	7	9	10	-9	-5	-1	1	-10	-6	-1	2	6	6	4	5
FRANKFURT TO TRIPOLI																									1062 N.MI.
53,000	-56.5	-58	-1	2	3	-57	-0	2	4	-59	-2	0	1	-61	-4	-2	-1	-58	-2	1	2	5	4	3	3
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-51	6	8	9	-56	0	3	4	-55	1	5	6	5	5	4	4
30,000	-44.5	-49	-4	-2	-0	-46	-1	1	1	-37	7	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	1	2	-19	2	4	6	-11	11	12	14	-15	6	8	9	-17	4	7	9	5	4	3	3
10,000	- 4.6	-7	-2	1	2	-3	2	5	6	6	11	13	14	1	5	7	9	-1	4	7	9	5	4	3	3
FRANKFURT TO VIENNA																									335 N.MI.
53,000	-56.5	-56	1	4	4	-54	2	5	6	-51	5	8	9	-58	-1	1	2	-55	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	0	4	6	-51	5	8	10	-56	0	3	5	-56	1	5	7	5	5	5	4
30,000	-44.5	-51	-7	-4	-2	-48	-1	-1	1	-40	4	7	8	-44	1	4	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	3	-15	8	10	11	-18	3	6	8	-20	1	5	6	6	4	3	5
10,000	- 4.6	-12	-7	-1	-1	-6	-2	1	3	2	7	9	10	-2	2	5	7	-5	0	4	6	6	4	3	5
FRANKFURT TO ZURICH																									155 N.MI.
53,000	-56.5	-56	0	4	5	-54	2	5	6	-52	5	7	9	-58	-2	1	2	-55	1	5	6	5	4	4	5
40,000	-56.5	-58	-2	2	4	-57	-0	4	6	-52	4	8	9	-56	0	3	5	-56	1	5	7	6	4	5	5
30,000	-44.5	-50	-6	-1	-2	-48	-3	-0	1	-40	5	7	8	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-5	-2	0	-22	-1	2	4	-13	8	10	11	-18	4	7	8	-20	1	5	7	6	4	3	5
10,000	- 4.6	-11	-6	-2	-0	-6	-1	2	1	2	7	9	10	-2	3	6	7	-4	1	4	6	6	4	3	4
FROBISHER BAY TO LOS ANGELES																									2550 N.MI.
53,000	-56.5	-58	-1	2	4	-54	2	5	6	-54	2	4	5	-58	-1	1	2	-56	0	3	5	5	4	3	3
40,000	-56.5	-55	1	6	8	-54	2	6	8	-52	5	7	9	-54	3	6	8	-54	3	6	8	6	6	4	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-40	4	6	8	-46	-1	2	1	-47	-2	1	3	4	4	3	4
20,000	-21.2	-32	-10	-6	-4	-26	-4	-1	1	-16	7	10	11	-21	0	4	6	-23	-2	2	5	6	4	3	5
10,000	- 4.6	-17	-13	-4	-4	-10	-5	-1	1	3	8	10	12	-6	-1	3	5	-7	-3	2	4	7	6	4	6
FROBISHER BAY TO NEW YORK																									1399 N.MI.
53,000	-56.5	-57	-0	3	5	-52	5	7	9	-52	5	7	9	-55	1	4	5	-54	3	6	7	5	6	4	4
40,000	-56.5	-54	3	7	9	-51	5	9	11	-51	6	9	10	-52	5	8	10	-52	5	8	10	6	4	5	5
30,000	-44.5	-52	-8	-5	-4	-50	-5	-2	-1	-41	3	6	7	-46	-2	1	3	-47	-3	1	3	4	4	4	5
20,000	-21.2	-31	-12	-8	-6	-28	-7	-3	-1	-15	6	8	10	-23	-2	2	4	-25	-4	1	3	6	4	4	6
10,000	- 4.6	-21	-16	-11	-9	-14	-10	-6	-4	-1	4	6	8	-8	-4	1	3	-11	-6	-2	1	7	6	4	6
FROBISHER BAY TO SAN FRANCISCO																									2462 N.MI.
53,000	-56.5	-57	-1	1	5	-55	4	6	8	-52	4	6	7	-57	-0	2	3	-55	2	4	6	5	6	3	3
40,000	-56.5	-55	1	5	8	-54	1	7	9	-52	5	8	10	-53	3	6	8	-54	3	6	8	6	6	5	5
30,000	-44.5	-51	-9	-6	-4	-50	-5	-3	-1	-41	3	5	7	-46	-2	1	2	-48	-3	0	2	4	4	3	4
20,000	-21.2	-31	-12	-7	-5	-27	-5	-2	-0	-15	6	8	10	-22	-1	3	5	-24	-3	1	4	6	5	4	6
10,000	- 4.6	-19	-16	-9	-7	-11	-7	-3	-1	2	6	9	10	-7	-3	1	4	-9	-4	0	3	7	6	4	6
FROBISHER BAY TO VANCOUVER																									1952 N.MI.
53,000	-56.5	-56	0	4	7	-50	4	9	10	-48	8	10	11	-54	3	5	6	-52	4	7	9	6	4	3	3
40,000	-56.5	-55	2	6	8	-52	5	9	11	-50	6	10	12	-52	4	8	9	-52	4	8	10	6	6	5	5
30,000	-44.5	-55	-10	-8	-6	-51	-7	-4	-3	-44	1	3	4	-49	-4	-1	0	-50	-5	-2	0	4	4	3	4
20,000	-21.2	-37	-15	-11	-9	-30	-9	-5	-1	-18	3	4	7	-26	-5	-1	1	-28	-6	-2	1	6	6	4	6
10,000	- 4.6	-21	-19	-14	-11	-15	-10	-7	-5	-2	2	5	6	-11	-7	-3	-0	-13	-8	-4	-1	7	6	4	6
FUKUOKA TO NAGOYA																									335 N.MI.
53,000	-56.5	-58	-2	2	4	-62	-5	-2	0	-63	-7	-3	-1	-63	-6	-3	-1	-62	-5	-1	2	6	5	5	5
40,000	-56.5	-50	7	10	12	-54	3	6	8	-48	9	11	13	-52	5	8	9	-51	6	9	11	5	5	4	4
30,000	-44.5	-42	1	6	8	-38	6	9	11	-27	17	20	21	-33	11	14	15	-35	9	14	16	5	5	4	4
20,000	-21.2	-22	-1	2	4	-15	7	10	11	-4	17	19	20	-11	11	13	15	-13	8	12	14	5	5	3	4
10,000	- 4.6	-9	-5	-1	1	-1	3	6	8	11	15	17	18	1	8	10	12	1	5	9	11	5	4	3	4
FUKUOKA TO OKINAWA																									456 N.MI.
53,000	-56.5	-63	-9	-5	-3	-67	-10	-7	-5	-67	-11	-7	-5	-66	-10	-6	-4	-66	-10	-6	-4	5	5	5	5
40,000	-56.5	-51	6	9	10	-54	3	6	8	-49	8	11	12	-52	5	7	9	-51	5	9	10	4	4	4	4
30,000	-44.5	-16	8	11	13	-36	8	11	12	-28	17	19	20	-31	14	16	17	-33	12	15	17	4	4	3	4
20,000	-21.2	-16	6	8	9	-11	11	13	14	-4	17	19	20	-8	13	15	16	-10	12	14	16	4	4	2	3
10,000	- 4.6	-4	1	4	5	2	7	9	11	11	16	17	18	6	11	13	14	4	9	12	13	4	3	2	3
FUKUOKA TO OSAKA																									258 N.MI.
53,000	-56.5	-59	-2	2	4	-62	-5	-2	-0	-64	-7	-3	-2	-63	-7	-3	-1	-62	-5	-1	1	6	5	5	5
40,000	-56.5	-50	7	10	12	-54	3	6	8	-48	9	11	13	-52	5	8	9	-51	6	9	11	5	5	4	4
30,000	-44.5	-41	3	6	8	-38	6	9	11	-27	17	20	21	-33	11	14	15	-35	9	14	16	5	5	4	4
20,000	-21.2	-22	-1	2	4	-15	7	10	11	-4	17	19	20	-11	11	13	15	-13	8	12	14	4	5	3	4
10,000	- 4.6	-9	-4	-1	1	-1	3	6	8	11	15	17	18	3	8	10	12	1	6	9	11	5	4	3	4
FUKUOKA TO TOKYO																									475 N.MI.
53,000	-56.5	-58	-2	2	4	-61	-5	-1	0	-63	-7	-3	-1	-63	-6	-3	-1	-61	-5	-0	2	6	5	5	5
40,000	-56.5	-49	7	11	12	-54	3	6	8	-48	9	11	13	-52	5	8	9	-51	6	9	11	5	5	4	4
30,000	-44.5	-41	1	6	8	-38	6	9	11	-27	17	20	21	-33	11	14	15	-35	9	14	16	5	5	4	4
20,000	-21.2	-22	-1	2	3	-15	7	10	11	-4	17	19	20	-11	11	13	15	-13	8	12	14	4	5	3	4
10,000	- 4.6	-9	-4	-1	1	-1	3	6	8	11	15	17	18	3	8	10	12	1	6	9	11	5	4	3	4
FUNCHAL TO LISBON																									531 N.MI.
53,000	-56.5	-62	-6	-3	-1	-60	-4	-1	1	-63	-7	-5	-3	-64	-7	-5	-4	-62	-6	-3	-1	5	4	3	3
40,000	-56.5	-58	-2	2	4	-57	-1	2	4	-53	4	6	7	-56	0	3	4	-56	0	3	5	5	5	3	4
30,000	-44.5	-45	-1	1	2	-43	2	4	5	-36	9	11	12	-39	5	7	8	-41	4	7	8	3	3	3	3
20,000	-21.2	-18	3	5	7	-16	5	7	8	-9	12	13	14	-12	9	11	12	-14	7	10	11	4	3	2	3
10,000	- 4.6	-1	4	6	7	1	5	7	9	9	14	15	16	4	8	10	11	3	8	10	12	4	3	2	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
GAN TO NAIROBI																						2189 N.MI.			
55,000	-56.5	-80	-23	-21	-20	-78	-21	-19	-18	-76	-19	-17	-16	-78	-22	-20	-19	-78	-21	-19	-18	3	4	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-54	3	4	5	-55	4	5	6	-55	4	6	7	2	3	2	2
30,000	-44.5	-30	15	16	16	-30	15	16	17	-31	13	15	15	-32	13	14	15	-31	14	15	16	2	2	2	2
20,000	-21.2	-4	17	18	18	-5	16	17	18	-5	16	17	18	-6	16	17	17	-5	16	17	18	1	1	1	1
10,000	- 4.6	10	14	15	15	10	14	15	16	9	14	15	15	9	14	15	15	9	14	15	15	1	1	1	1
GANDER TO GOOSE BAY																						342 N.MI.			
55,000	-56.5	-56	1	3	5	-52	5	7	9	-52	5	7	9	-55	2	5	7	-54	3	6	8	4	4	4	5
40,000	-56.5	-52	4	8	10	-52	5	9	11	-51	5	8	10	-52	5	8	11	-52	5	8	10	6	6	5	6
30,000	-44.5	-50	-6	-2	-1	-49	-4	-2	-0	-41	3	6	8	-45	-1	2	4	-46	-2	2	4	5	4	4	5
20,000	-21.2	-31	-10	-5	-2	-27	-5	-2	1	-15	6	9	11	-21	-0	4	6	-23	-2	2	5	7	6	4	6
10,000	- 4.6	-19	-14	-9	-6	-11	-6	-3	-1	-0	4	7	8	-7	-3	1	4	-9	-5	-0	2	8	6	4	6
GANDER TO KEFLAVIK																						1366 N.MI.			
55,000	-56.5	-56	0	4	5	-51	6	8	10	-48	8	11	12	-54	3	6	7	-52	4	7	9	5	4	3	4
40,000	-56.5	-53	4	8	10	-51	5	10	13	-50	7	10	12	-52	5	9	11	-51	5	9	11	7	7	5	6
30,000	-44.5	-51	-6	-3	-2	-48	-4	-1	1	-43	1	4	6	-46	-2	1	3	-47	-3	1	3	5	4	4	4
20,000	-21.2	-31	-10	-6	-3	-27	-6	-2	0	-17	4	7	9	-23	-2	2	4	-25	-3	1	3	7	6	4	6
10,000	- 4.6	-17	-12	-8	-5	-12	-7	-4	-2	-2	2	5	6	-8	-4	-0	2	-10	-5	-1	1	6	5	3	6
GANDER TO LAJES																						1527 N.MI.			
55,000	-56.5	-59	-2	0	2	-56	0	3	4	-57	-0	2	3	-60	-3	-0	1	-58	-1	2	3	4	4	3	4
40,000	-56.5	-57	-0	4	6	-57	-0	4	6	-54	2	5	7	-55	2	5	7	-56	1	4	6	6	6	4	5
30,000	-44.5	-47	-2	1	2	-46	1	1	3	-38	6	9	10	-42	3	6	7	-43	1	5	7	4	4	4	4
20,000	-21.2	-23	-1	2	5	-20	3	4	6	-12	10	12	13	-15	6	9	11	-17	4	7	9	6	5	3	5
10,000	- 4.6	-4	-3	1	3	-4	0	3	5	3	8	10	11	-1	4	7	8	-2	2	5	7	6	5	3	4
GANDER TO LONDON																						2036 N.MI.			
55,000	-56.5	-57	-0	3	4	-55	3	6	7	-51	6	9	10	-56	1	3	5	-54	2	6	7	4	4	4	4
40,000	-56.5	-55	2	6	8	-54	2	7	10	-51	5	9	11	-54	2	6	8	-54	3	7	9	7	7	5	6
30,000	-44.5	-49	-5	-2	-0	-47	-3	0	1	-41	3	6	8	-44	0	3	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-1	1	-24	-2	1	3	-15	6	9	11	-19	2	5	7	-21	0	4	6	7	5	4	5
10,000	- 4.6	-12	-7	-3	-1	-8	-3	0	2	0	5	7	8	-4	0	4	5	-6	-1	2	4	6	5	3	5
GANDER TO MONTREAL																						807 N.MI.			
51,000	-56.5	-56	0	3	4	-53	3	6	7	-55	2	5	6	-57	-1	3	4	-55	1	4	6	4	4	4	5
40,000	-56.5	-53	3	7	9	-53	4	8	10	-53	4	7	8	-53	3	7	9	-53	3	8	10	6	6	4	5
30,000	-44.5	-50	-5	-2	-1	-48	-4	-1	0	-39	5	8	9	-44	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-29	-8	-3	-1	-25	-4	-1	1	-13	8	11	12	-19	2	6	8	-22	-0	4	6	7	5	4	5
10,000	- 4.6	-17	-12	-7	-4	-10	-6	-2	-0	2	6	9	10	-4	0	4	6	-8	-3	1	4	8	5	3	6
GANDER TO NASSAU																						1791 N.MI.			
55,000	-56.5	-64	-7	-5	-4	-61	-5	-3	-2	-63	-6	-4	-3	-66	-9	-6	-5	-64	-7	-4	-3	3	3	3	4
40,000	-56.5	-56	0	3	5	-56	0	3	5	-55	1	3	4	-55	2	4	6	-56	1	4	5	5	5	3	4
30,000	-44.5	-44	1	3	4	-43	2	4	5	-36	9	11	12	-37	6	8	10	-40	4	7	8	3	3	3	3
20,000	-21.2	-18	3	6	7	-17	4	7	8	-9	12	14	14	-12	9	12	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-3	-0	3	5	-2	3	5	7	6	10	12	13	3	7	10	11	0	5	8	9	5	4	2	4
GANDER TO NEW YORK																						954 N.MI.			
55,000	-56.5	-57	-1	2	3	-55	2	4	5	-57	-1	2	3	-59	-3	1	2	-57	-1	2	4	4	4	4	5
40,000	-56.5	-55	2	6	8	-54	2	6	8	-54	3	5	7	-54	3	6	8	-54	2	5	7	6	6	4	5
30,000	-44.5	-48	-4	-1	1	-47	-3	-0	1	-38	7	9	10	-43	2	5	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-4	-0	2	-23	-2	1	3	-12	9	12	13	-17	4	8	10	-19	2	6	8	6	5	3	5
10,000	- 4.6	-14	-9	-4	-2	-8	-4	-0	2	3	8	10	11	-2	2	6	8	-5	-1	3	5	7	5	3	5
GANDER TO PRESTWICK																						1836 N.MI.			
55,000	-56.5	-56	0	3	5	-52	4	7	8	-50	7	9	11	-55	1	4	6	-53	3	6	8	4	4	4	4
40,000	-56.5	-54	2	7	9	-53	3	8	11	-51	6	10	12	-53	3	7	9	-53	4	8	10	7	7	5	6
30,000	-44.5	-49	-5	-2	-1	-47	-3	-0	1	-42	3	5	7	-45	-0	3	4	-46	-1	2	4	4	4	4	4
20,000	-21.2	-28	-7	-2	0	-25	-3	0	2	-15	6	8	10	-20	1	5	7	-22	-1	3	5	7	5	4	5
10,000	- 4.6	-13	-9	-4	-2	-9	-4	-1	1	-1	4	6	7	-5	-1	3	5	-7	-2	1	3	6	5	3	5
GANDER TO SHANNON																						1715 N.MI.			
55,000	-56.5	-56	0	3	4	-53	3	6	7	-51	6	8	10	-56	1	4	5	-54	2	6	7	4	4	4	4
40,000	-56.5	-54	2	7	9	-54	3	7	10	-51	5	9	11	-54	3	7	9	-53	3	7	9	7	7	5	6
30,000	-44.5	-49	-4	-2	0	-47	-3	0	2	-41	3	6	8	-44	0	3	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-3	1	-24	-2	1	3	-15	7	9	11	-20	2	5	7	-21	-0	4	6	7	5	4	5
10,000	- 4.6	-12	-8	-4	-1	-8	-3	0	2	0	5	7	8	-5	0	3	5	-6	-2	2	4	6	5	3	5
GENEVA TO GLASGOW																						695 N.MI.			
55,000	-56.5	-57	-1	3	4	-54	3	5	7	-51	6	8	10	-58	-1	2	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	3	5	-55	1	5	8	-51	5	9	11	-56	0	4	6	-55	1	6	8	6	7	5	5
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-41	4	6	8	-44	1	3	5	-45	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-14	7	9	10	-18	3	6	8	-20	1	4	6	6	5	3	5
10,000	- 4.6	-9	-5	-1	1	-6	-2	1	3	1	6	8	9	-2	2	5	7	-4	0	4	6	6	5	3	5
GENEVA TO HAMBURG																						468 N.MI.			
55,000	-56.5	-57	-0	3	5	-54	2	5	6	-51	6	8	9	-58	-1	1	3	-55	2	5	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	0	4	7	-52	5	8	10	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-51	-6	-3	-2	-48	-3	-1	1	-40	4	7	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-22	-1	2	3	-14	7	10	11	-18	3	6	8	-20	1	5	6	6	4	3	5
10,000	- 4.6	-11	-6	-2	-0	-6	-2	1	3	2	7	9	10	-3	2	5	7	-4	0	4	6	6	4	3	5
GENEVA TO HAVANA																						4356 N.MI.			
55,000	-56.5	-62	-6	-3	-2	-60	-3	-1	0	-60	-3	-1	0	-63	-7	-4	-3	-61	-5	-2	-1	4	4	3	4
40,000	-56.5	-58	-1	3	5	-57	-1	3	5	-55	2	4	5	-56	1	4	5	-56	0	3	5	5	5	4	4
30,000	-44.5	-45	-1	2	3	-44	1	3	4	-37	8	10	11	-40	5	7	8	-41	3	6	8	5	3	3	4
20,000	-21.2	-19	2	5	7	-18	4	6	8	-10	11	13	14	-13	8	10	12	-15	6	9	10	5	4	3	4
10,000	- 4.6	-4	0	4	5	-2	3	5	7	5	9	11	12	2	6	9	10	0	5	7	9	5	4	2	4
GENEVA TO HELSINKI																						1075 N.MI.			
55,000	-56.5	-57	-0	3	5	-53	3	6	7	-49	8	10	11	-57	-0	2	4	-54	3	6	7	5	4	3	4
40,000	-56.5	-59	-2	1	3	-55	2	6	8	-51	6	9	11	-56	1	4	6	-55	1	6	8	5	6	5	5
30,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-0	-41	4	6	8	-45	-0	2	4	-47	-2	2	4	5	4	4	4
20,000	-21.2	-29	-8	-4	-2	-24	-3	0	2	-15	7	9	10	-19	2	5	7	-22	-1	3	5	6	5	3	4
10,000	- 4.6	-13	-9	-5	-3	-8	-4	-0	1	1	5	8	9	-5	-0	3	5	-6	-2	2	4	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	INROUTE TEMPERATURE																				STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
GENEVA TO ISTANBUL																									1032 N.MI.
55,000	-56.5	-56	0	4	5	-55	1	4	5	-55	1	4	5	-59	-3	-0	1	-56	0	3	4	5	4	3	6
40,000	-56.5	-58	-1	2	4	-57	-1	3	5	-51	6	9	10	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-6	-3	-2	-47	-2	0	2	-38	7	9	10	-42	2	5	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-1	0	-21	0	3	5	-12	10	12	13	-16	5	7	9	-19	3	6	8	5	4	3	4
10,000	- 4.6	-10	-5	-2	-0	-5	-0	3	4	6	9	11	12	-1	4	6	8	-3	2	5	7	5	4	3	4
GENEVA TO KANO																									2055 N.MI.
55,000	-56.5	-66	-10	-7	-6	-65	-9	-6	-5	-68	-12	-10	-9	-68	-12	-10	-9	-67	-10	-8	-7	4	3	3	3
40,000	-56.5	-55	1	4	6	-55	2	5	6	-51	5	7	8	-55	2	4	5	-54	2	5	6	4	4	3	3
30,000	-44.5	-43	1	3	4	-39	5	7	8	-35	11	13	14	-37	7	9	10	-38	6	9	10	3	3	3	3
20,000	-21.2	-17	4	6	8	-14	8	9	10	-7	14	15	16	-11	10	12	13	-12	9	11	33	3	3	2	2
10,000	- 4.6	0	5	7	8	4	8	10	11	11	16	18	18	5	10	11	12	5	10	13	14	3	3	2	2
GENEVA TO KEFLAVIK																									1627 N.MI.
55,000	-56.5	-57	-1	3	5	-52	4	7	9	-48	8	10	12	-56	0	3	5	-56	3	6	8	5	4	3	6
40,000	-56.5	-57	-1	4	6	-53	3	8	10	-50	7	11	13	-55	1	5	7	-54	3	7	10	7	7	5	6
30,000	-44.5	-51	-6	-4	-2	-48	-3	-0	1	-42	2	5	6	-45	-1	2	4	-46	-2	2	3	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-25	-3	0	2	-16	5	7	9	-26	1	4	6	-22	-1	3	5	6	5	4	5
10,000	- 4.6	-11	-6	-3	-1	-9	-4	-1	1	-1	4	6	7	-5	0	3	5	-6	-2	2	6	5	4	3	5
GENEVA TO KHARTOUM																									2265 N.MI.
55,000	-56.5	-65	-8	-6	-5	-66	-7	-5	-4	-67	-11	-9	-8	-67	-11	-9	-7	-66	-9	-7	-5	6	3	3	3
40,000	-56.5	-55	1	4	5	-56	1	4	5	-50	7	9	10	-55	1	3	5	-54	3	5	7	4	4	3	3
30,000	-44.5	-44	0	2	3	-40	4	6	7	-32	13	15	16	-38	7	8	9	-39	6	9	11	3	3	3	3
20,000	-21.2	-18	3	6	7	-15	7	9	10	-7	14	16	17	-12	10	11	12	-13	8	11	13	3	3	2	2
10,000	- 4.6	-1	3	4	7	2	7	9	10	10	15	16	17	5	10	11	12	4	9	11	13	6	3	2	3
GENEVA TO LEOPOLDVILLE																									3077 N.MI.
55,000	-56.5	-70	-13	-11	-10	-69	-12	-10	-9	-71	-14	-12	-11	-71	-15	-13	-12	-70	-14	-11	-10	3	3	3	3
40,000	-56.5	-55	2	4	5	-54	3	5	7	-52	5	6	7	-54	3	5	5	-54	3	5	6	6	4	2	2
30,000	-44.5	-40	4	6	7	-36	8	10	11	-33	12	13	14	-35	9	11	12	-36	9	11	12	2	2	2	2
20,000	-21.2	-13	8	10	10	-11	11	12	13	-6	15	16	17	-9	12	13	14	-10	11	13	14	3	2	2	2
10,000	- 4.6	3	8	10	11	6	10	12	13	11	15	16	17	7	12	13	14	7	11	13	14	3	2	2	2
GENEVA TO LISBON																									807 N.MI.
55,000	-56.5	-59	-2	1	3	-57	-0	3	4	-57	-1	2	3	-60	-4	-1	-0	-58	-2	1	3	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-2	2	4	-54	3	6	7	-56	0	3	4	-57	-0	3	5	6	6	4	4
30,000	-44.5	-48	-3	-1	1	-46	-1	1	3	-38	7	9	10	-42	3	5	7	-43	1	5	6	4	6	3	4
20,000	-21.2	-22	-1	2	4	-19	2	4	6	-11	10	12	13	-15	6	8	10	-17	4	7	9	5	4	3	4
10,000	- 4.6	-5	-1	2	4	-2	2	5	6	6	11	13	14	0	5	7	9	-0	4	8	9	5	4	3	4
GENEVA TO LONDON																									406 N.MI.
55,000	-56.5	-57	-1	3	5	-54	2	5	6	-52	5	7	8	-58	-2	1	2	-55	1	4	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	0	4	7	-52	4	8	10	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-5	-3	-1	-47	-3	-0	1	-40	5	7	8	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-25	-4	-1	1	-22	-0	3	4	-13	8	10	11	-17	4	7	8	-20	2	5	7	5	5	3	5
10,000	- 4.6	-9	-4	-1	1	-5	-1	2	4	2	7	9	10	-2	3	6	7	-3	1	5	6	5	4	3	4
GENEVA TO LOS ANGELES																									5131 N.MI.
55,000	-56.5	-57	-1	3	5	-53	4	6	8	-51	5	7	8	-56	0	3	4	-54	2	5	6	5	4	3	4
40,000	-56.5	-55	1	4	8	-53	3	8	10	-51	6	9	11	-53	3	7	9	-53	3	7	9	6	6	5	5
30,000	-44.5	-52	-7	-4	-3	-48	-4	-1	0	-41	3	6	7	-46	-1	2	3	-47	-2	1	3	4	4	4	4
20,000	-21.2	-30	-9	-5	-3	-24	-4	-1	1	-15	4	9	10	-21	-0	3	5	-23	-2	2	4	6	5	4	5
10,000	- 4.6	-16	-11	-7	-5	-10	-5	-2	0	1	6	8	9	-6	-1	2	4	-8	-3	1	3	6	5	4	6
GENEVA TO MADRID																									545 N.MI.
55,000	-56.5	-58	-2	2	4	-56	0	3	5	-57	-0	2	4	-60	-4	-1	0	-58	-1	2	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-2	2	4	-53	3	6	7	-56	0	3	4	-57	-0	3	5	6	6	4	4
30,000	-44.5	-48	-4	-1	0	-46	-2	1	3	-38	7	9	10	-42	3	5	7	-44	1	4	6	4	4	3	4
20,000	-21.2	-23	-2	1	3	-20	1	4	5	-11	10	12	13	-16	6	8	9	-17	4	7	9	5	4	3	4
10,000	- 4.6	-6	-2	2	3	-3	2	4	6	6	10	12	13	0	5	7	8	-1	4	7	9	5	4	3	4
GENEVA TO MILAN																									115 N.MI.
55,000	-56.5	-56	0	3	5	-55	1	4	6	-54	3	5	6	-59	-3	0	1	-56	0	3	5	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	2	4	-53	3	6	8	-56	0	3	4	-56	0	4	6	6	6	4	4
30,000	-44.5	-50	-5	-3	-1	-47	-2	0	2	-39	6	8	9	-43	2	5	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-4	-1	1	-21	0	3	4	-12	9	11	12	-17	5	7	9	-19	2	6	8	5	4	3	4
10,000	- 4.6	-9	-4	-0	1	-5	-0	2	4	4	8	10	12	-1	4	6	8	-3	2	5	7	5	4	3	4
GENEVA TO MONTREAL																									3167 N.MI.
55,000	-56.5	-57	-0	3	4	-53	3	6	7	-52	5	7	9	-56	0	3	5	-54	2	5	7	4	4	4	4
40,000	-56.5	-55	2	6	8	-54	2	7	9	-52	5	8	10	-54	3	6	8	-54	3	7	9	6	7	5	5
30,000	-44.5	-49	-5	-2	-1	-47	-3	-0	1	-41	4	7	8	-44	0	3	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-24	-3	1	3	-14	7	10	11	-19	2	5	7	-21	-0	4	6	6	5	4	5
10,000	- 4.6	-13	-9	-4	-2	-8	-4	-0	2	1	5	8	9	-4	0	4	6	-6	-2	2	4	6	5	3	5
GENEVA TO MOSCOW																									1501 N.MI.
55,000	-56.5	-56	1	4	6	-53	3	6	7	-49	7	10	11	-57	-0	2	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-55	1	5	7	-51	6	9	10	-56	1	4	5	-55	1	5	7	5	5	5	5
30,000	-44.5	-52	-8	-5	-3	-48	-4	-1	1	-40	4	7	8	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-14	7	9	11	-19	2	6	7	-21	0	4	6	6	5	3	5
10,000	- 4.6	-13	-9	-5	-3	-7	-3	1	2	1	6	8	9	-4	0	4	5	-6	-1	2	4	6	5	3	5
GENEVA TO MUNICH																									255 N.MI.
55,000	-56.5	-56	0	4	5	-55	2	4	6	-53	4	6	7	-59	-2	0	2	-56	1	4	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-53	4	7	9	-56	0	3	5	-56	0	4	6	6	6	5	4
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-39	5	8	9	-43	1	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-21	-0	3	4	-13	8	11	12	-17	4	7	9	-19	2	5	7	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-1	2	3	3	8	10	11	-2	3	6	8	-3	1	5	7	5	4	3	4
GENEVA TO NAIROBI																									3285 N.MI.
55,000	-56.5	-69	-13	-11	-9	-68	-12	-10	-9	-70	-14	-12	-11	-71	-14	-12	-11	-70	-13	-11	-30	3	3	3	3
40,000	-56.5	-55	2	4	5	-54	2	5	6	-51	6	7	8	-54	3	4	5	-53	3	5	6	3	4	2	3
30,000	-44.5	-40	4	6	7	-37	8	9	10	-32	13	15	15	-35	9	11	12	-36	8	11	12	2	2	2	2
20,000	-21.2	-14	8	10	11	-11	10	12	13	-6	15	16	17	-9	12	13	14	-10	11	13	14	3	3	2	2
10,000	- 4.6	3	7	9	10	5	10	11	12	10	15	16	17	7	11	13	13	6	11	13	14	3	3	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																				STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
GENEVA TO NATAL																									3494 N.MI.
53,000	-56.5	-70	-13	-11	-10	-69	-13	-11	-9	-71	-14	-12	-11	-71	-15	-13	-12	-70	-14	-11	-10	3	3	3	3
40,000	-56.5	-54	2	4	5	-54	3	5	7	-51	5	7	8	-54	3	4	5	-53	3	5	6	3	4	2	2
30,000	-44.5	-40	5	7	7	-36	8	10	11	-32	13	14	15	-35	10	11	12	-36	9	11	13	2	2	2	2
20,000	-21.2	-13	8	10	11	-11	11	12	13	-6	15	16	17	-9	12	13	14	-10	12	14	15	3	2	2	2
10,000	- 4.6	3	8	10	11	6	10	12	13	10	15	16	17	7	12	13	14	7	11	13	14	3	2	2	2
GENEVA TO NEW YORK																									3346 N.MI.
53,000	-56.5	-57	-1	2	4	-55	2	5	6	-54	3	5	7	-58	-1	2	3	-56	1	4	5	4	4	4	4
40,000	-56.5	-56	1	5	7	-55	1	6	8	-53	4	7	9	-55	2	5	7	-55	2	6	8	6	6	5	5
30,000	-44.5	-48	-4	-1	0	-47	-2	0	2	-40	5	8	9	-43	1	4	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-25	-4	0	2	-22	-1	2	4	-13	8	11	12	-18	4	7	9	-20	2	5	7	6	5	4	5
10,000	- 4.6	-11	-6	-2	0	-7	-2	1	1	2	7	9	10	-3	2	5	7	-5	-0	4	5	6	5	3	5
GENEVA TO OSLO																									836 N.MI.
53,000	-56.5	-57	-1	3	4	-51	3	6	7	-49	7	9	11	-57	-1	2	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-59	-2	2	4	-55	2	6	8	-51	6	9	11	-56	0	4	6	-55	1	6	8	6	6	5	5
30,000	-44.5	-51	-7	-4	-1	-48	-4	-1	0	-41	1	6	7	-45	-0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	2	-15	6	9	10	-19	2	5	7	-21	-0	4	5	6	5	3	5
10,000	- 4.6	-12	-7	-4	-1	-7	-3	0	2	1	5	8	9	-4	0	4	5	-6	-1	3	4	6	5	3	5
GENEVA TO PARIS																									221 N.MI.
53,000	-56.5	-57	-0	3	5	-55	2	4	6	-53	4	6	7	-59	-2	0	2	-56	1	4	5	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	6	-51	4	7	9	-56	0	3	5	-56	0	4	6	6	6	5	5
30,000	-44.5	-50	-5	-3	-1	-47	-3	0	2	-40	5	7	9	-43	3	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-25	-4	-1	1	-21	-0	3	4	-11	8	10	12	-17	4	7	9	-19	2	5	7	5	4	3	4
10,000	- 4.6	-9	-4	-1	1	-5	-0	2	4	3	8	10	11	-1	3	6	8	-3	2	5	7	5	4	3	4
GENEVA TO PRAGUE																									401 N.MI.
53,000	-56.5	-56	0	4	5	-54	2	5	6	-52	5	7	8	-58	-2	1	2	-55	1	4	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-0	4	6	-52	4	7	9	-56	0	3	5	-56	1	4	7	6	6	5	4
30,000	-44.5	-51	-6	-3	-2	-48	-3	-0	1	-40	5	7	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-5	-2	0	-22	-3	2	4	-11	8	10	11	-17	4	7	8	-20	1	5	7	5	4	3	4
10,000	- 4.6	-11	-6	-2	-0	-6	-1	2	3	3	7	9	11	-2	1	6	7	-4	3	4	6	6	4	3	4
GENEVA TO RIO DE JANEIRO																									4933 N.MI.
53,000	-56.5	-72	-15	-13	-11	-71	-14	-12	-11	-69	-13	-11	-9	-73	-15	-11	-12	-71	-14	-12	-11	4	3	3	3
40,000	-56.5	-55	1	4	5	-54	2	5	6	-51	4	5	6	-54	3	4	5	-54	2	4	5	4	4	2	3
30,000	-44.5	-58	7	8	9	-15	9	11	12	-14	11	12	13	-15	10	12	13	-35	9	11	12	2	2	2	3
20,000	-21.2	-11	10	12	13	-10	11	11	14	-8	13	15	15	-8	13	14	15	-9	12	14	14	3	2	2	2
10,000	- 4.6	5	10	11	12	6	11	12	13	9	13	15	15	7	12	11	14	7	11	13	14	2	2	2	2
GENEVA TO ROME																									386 N.MI.
53,000	-56.5	-56	0	3	5	-56	1	4	5	-56	1	3	5	-60	-3	-1	1	-57	-0	2	4	5	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	4	-52	4	7	8	-55	0	1	4	-56	0	4	6	5	5	4	4
30,000	-44.5	-49	-5	-2	-1	-47	-2	1	2	-38	6	9	10	-42	2	5	6	-44	0	4	6	4	4	3	3
20,000	-21.2	-25	-4	-1	1	-20	1	3	5	-12	10	12	13	-16	5	8	9	-18	3	6	8	5	4	3	4
10,000	- 4.6	-8	-3	0	2	-4	0	3	5	5	9	12	11	-3	4	7	8	-2	1	6	8	5	4	3	4
GENEVA TO SAN FRANCISCO																									5055 N.MI.
53,000	-56.5	-57	-1	3	5	-52	5	8	9	-50	7	9	10	-56	1	1	5	-54	1	6	8	6	4	3	4
40,000	-56.5	-56	1	5	7	-52	4	8	10	-50	7	10	11	-53	1	7	9	-51	4	8	10	6	6	5	5
30,000	-44.5	-51	-8	-5	-4	-49	-4	-2	-0	-42	2	5	6	-46	-2	1	1	-48	-1	0	2	4	4	4	4
20,000	-21.2	-32	-10	-6	-4	-27	-6	-2	-0	-16	5	7	9	-21	-2	2	4	-24	-3	1	1	6	5	4	6
10,000	- 4.6	-17	-12	-8	-6	-12	-7	-3	-1	-0	4	7	8	-8	-3	3	3	-9	-5	-0	2	6	5	4	6
GENEVA TO SANTA MARIA																									1497 N.MI.
53,000	-56.5	-59	-3	0	2	-57	-1	2	4	-58	-1	1	3	-61	-4	-2	-1	-59	-2	1	3	5	4	4	4
40,000	-56.5	-59	-2	2	4	-58	-2	2	4	-54	1	6	7	-57	-0	3	4	-57	-0	1	5	6	6	4	4
30,000	-44.5	-47	-3	-0	1	-45	-1	2	3	-38	7	9	10	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-21	-0	1	4	-19	2	5	6	-11	10	12	13	-15	7	9	10	-17	5	8	9	5	4	3	4
10,000	- 4.6	-5	-0	3	5	-2	2	5	6	5	10	12	13	1	6	8	9	-0	4	8	9	4	4	3	4
GENEVA TO SHANNON																									700 N.MI.
53,000	-56.5	-57	-1	2	4	-54	2	5	6	-52	5	7	9	-58	-2	1	1	-55	1	4	6	5	4	4	4
40,000	-56.5	-58	-2	3	5	-56	0	5	7	-52	5	8	10	-56	0	4	5	-56	1	5	7	6	7	5	5
30,000	-44.5	-50	-5	-2	-1	-47	-2	0	2	-40	4	7	8	-44	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-25	-4	-0	2	-22	-1	3	4	-14	7	10	11	-18	3	7	8	-20	2	5	7	5	5	3	5
10,000	- 4.6	-9	-4	-0	1	-5	-1	2	4	2	7	9	10	-2	3	6	7	-1	1	4	6	5	4	3	4
GENEVA TO STOCKHOLM																									908 N.MI.
53,000	-56.5	-57	-0	3	5	-51	3	6	7	-49	7	9	11	-57	-1	2	1	-54	2	6	7	5	4	3	4
40,000	-56.5	-59	-2	2	4	-55	2	6	8	-51	6	9	11	-56	0	4	5	-55	3	6	8	6	6	5	5
10,000	-44.5	-52	-7	-4	-3	-49	-4	-2	-0	-41	4	6	7	-45	-0	1	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-29	-7	-1	-1	-24	-2	1	2	-15	7	9	10	-19	2	5	7	-21	-0	1	5	6	5	3	5
10,000	- 4.6	-11	-8	-4	-2	-8	-3	0	2	1	6	8	9	-4	0	1	5	-6	-1	2	4	6	5	1	5
GENEVA TO TEHERAN																									2113 N.MI.
53,000	-56.5	-57	-0	3	4	-56	1	1	4	-58	-1	1	2	-60	-3	-1	1	-58	-1	2	3	5	4	3	4
40,000	-56.5	-57	-0	3	4	-56	0	4	6	-49	8	10	12	-56	0	3	4	-54	2	6	8	5	5	4	4
30,000	-44.5	-50	-6	-1	-2	-46	-1	1	3	-35	10	12	13	-42	2	5	6	-43	1	5	8	4	4	4	4
20,000	-21.2	-25	-4	-1	1	-20	1	4	6	-9	12	14	15	-16	5	8	9	-18	4	7	9	5	4	3	4
10,000	- 4.6	-10	-5	-2	-0	-3	1	4	6	6	11	13	14	0	5	8	9	-2	3	7	9	5	4	3	4
GENEVA TO TEL AVIV-JAFFA																									1576 N.MI.
53,000	-56.5	-58	-2	1	3	-57	-1	2	3	-61	-5	-2	-1	-63	-5	-2	-1	-59	-3	-0	1	4	3	3	3
40,000	-56.5	-57	-0	1	5	-57	-1	1	5	-49	7	10	11	-56	0	2	4	-55	2	5	7	5	5	3	3
30,000	-44.5	-49	-4	-2	-1	-45	-1	1	3	-34	10	12	13	-41	1	5	7	-43	2	6	8	3	4	3	3
20,000	-21.2	-24	-2	0	2	-19	2	4	6	-9	12	14	15	-15	6	8	9	-17	4	8	10	4	4	3	3
10,000	- 4.6	-8	-1	-0	1	-1	2	5	6	7	11	13	14	1	6	8	9	-1	4	7	9	4	4	3	3
GENEVA TO VIENNA																									441 N.MI.
53,000	-56.5	-56	0	4	6	-55	2	5	6	-52	4	6	8	-59	-2	1	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-0	3	5	-52	4	7	9	-56	0	3	4	-56	1	4	6	5	5	4	4
30,000	-44.5	-51	-6	-3	-2	-47	-3	-0	1	-39	5	8	9	-43	1	4	6	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-22	-0	2	4	-13	8	10	12	-17	4	7	8	-20	2	5	7	5	4	3	4
10,000	- 4.6	-10	-6	-2	-0	-6	-1	2	3	3	8	10	11	-2	3	6	7	-4	1	4	6	5	4	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
GENEVA TO WARSAW																						681 N.MI.			
53,000	-56.5	-56	0	4	6	-54	2	5	6	-51	6	8	9	-58	-1	1	3	-55	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	0	4	6	-52	5	8	10	-56	0	3	5	-56	1	5	7	5	5	5	4
30,000	-44.5	-51	-7	-4	-2	-48	-3	-1	1	-40	4	7	8	-44	1	4	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1		3	-13	8	10	11	-18	3	6	8	-20	1	4	6	6	4	3	5
10,000	- 4.6	-12	-7	-3	-1	-7	-2	.	3	2	7	9	10	-3	2	5	7	-5	-0	3	5	6	4	3	5
GENEVA TO ZURICH																						124 N.MI.			
53,000	-56.5	-56	0	3	5	-55	2	4	6	-55	3	6	7	-59	-2	0	2	-56	1	4	5	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-53	4	7	8	-56	0	3	5	-56	0	4	6	6	6	5	4
30,000	-44.5	-50	-5	-3	-1	-47	-3	0	2	-39	5	8	9	-43	2	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-21	-0	3	4	-13	9	11	12	-17	4	7	9	-19	2	6	7	5	4	3	4
10,000	- 4.6	-9	-4	-1	1	-5	-1	2	4	3	8	10	11	-1	3	6	8	-3	2	5	7	5	4	3	4
GEORGETOWN TO TRINIDAD																						307 N.MI.			
53,000	-56.5	-78	-22	-20	-19	-78	-22	-20	-19	-73	-17	-15	-14	-77	-21	-19	-18	-77	-20	-18	-16	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	4	6	7	-55	2	3	4	-54	3	4	5	-54	3	5	6	2	3	2	2
30,000	-44.5	-33	11	13	13	-31	14	15	16	-33	12	13	14	-31	14	15	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-6	15	17	17	-5	16	17	18	-7	14	15	16	-6	16	17	17	-6	15	17	17	2	2	1	1
10,000	- 4.6	9	14	15	16	10	14	15	16	9	14	15	15	10	15	14	16	9	14	15	16	2	2	2	2
GIBRALTAR TO LONDON																						945 N.MI.			
53,000	-56.5	-59	-2	1	3	-56	0	3	4	-57	-0	2	4	-60	-4	-1	0	-58	-1	2	3	5	4	4	4
40,000	-56.5	-58	-2	2	5	-57	-1	3	5	-53	4	7	8	-56	0	3	5	-56	0	4	6	6	6	4	4
30,000	-44.5	-48	-3	-1	0	-46	-1	1	3	-38	6	9	10	-42	3	5	7	-43	1	4	6	4	4	4	4
20,000	-21.2	-22	-1	2	4	-20	2	4	6	-12	9	11	13	-16	6	8	10	-17	4	7	9	5	4	3	4
10,000	- 4.6	-6	-1	2	4	-1	2	5	4	5	10	12	13	0	5	7	9	-1	4	7	9	5	4	3	4
GIBRALTAR TO MADRID																						272 N.MI.			
53,000	-56.5	-60	-4	-0	2	-58	-2	1	2	-61	-5	-3	-1	-62	-6	-3	-2	-60	-4	-1	1	5	4	3	3
40,000	-56.5	-58	-1	2	5	-57	-1	3	4	-53	4	6	8	-56	0	3	4	-56	0	4	5	6	5	4	4
30,000	-44.5	-46	-2	0	2	-44	0	2	4	-36	8	10	11	-41	4	6	8	-42	3	6	7	3	3	3	4
20,000	-21.2	-20	1	4	5	-18	4	6	7	-10	11	13	14	-14	8	10	11	-15	6	9	10	4	3	3	3
10,000	- 4.6	-1	1	4	6	-0	4	7	8	9	14	15	16	2	7	9	10	2	7	10	12	4	3	3	3
GOOSE BAY TO LONDON																						2155 N.MI.			
53,000	-56.5	-56	0	3	5	-52	5	7	9	-49	8	10	12	-55	2	5	6	-53	4	7	9	5	4	4	4
40,000	-56.5	-54	2	7	9	-53	4	9	11	-50	6	10	12	-53	3	7	9	-53	4	8	10	7	7	5	6
30,000	-44.5	-50	-6	-3	-1	-48	-3	-0	1	-42	2	5	6	-45	-1	2	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-3	-1	-25	-4	-0	2	-16	5	8	9	-21	-0	4	6	-23	-2	2	5	7	6	4	4
10,000	- 4.6	-14	-9	-5	-3	-10	-5	-2	0	-1	4	6	7	-6	-2	2	4	-8	-3	1	3	6	5	3	5
GOOSE BAY TO LOS ANGELES																						2686 N.MI.			
53,000	-56.5	-58	-2	1	3	-56	1	4	5	-57	-1	2	3	-59	-3	-0	1	-58	-1	2	3	5	4	3	4
40,000	-56.5	-54	2	6	8	-55	2	5	8	-53	4	6	8	-56	2	6	7	-54	2	5	7	6	8	4	5
30,000	-44.5	-51	-6	-4	-2	-48	-4	-1	0	-38	6	8	9	-46	1	3	5	-45	-1	3	5	4	4	3	4
20,000	-21.2	-29	-8	-4	-1	-26	-2	1	3	-12	9	12	13	-18	3	6	8	-21	1	5	7	6	5	3	5
10,000	- 4.6	-15	-10	-6	-3	-7	-3	1	1	5	10	12	13	-3	2	6	8	-5	-0	4	7	7	6	4	6
GOOSE BAY TO MONTREAL																						700 N.MI.			
53,000	-56.5	-56	0	3	5	-52	4	7	8	-53	4	6	8	-56	1	4	6	-54	2	5	7	4	4	4	5
40,000	-56.5	-53	4	8	10	-52	5	9	11	-52	5	8	10	-52	4	8	10	-52	4	8	10	6	6	5	6
30,000	-44.5	-51	-7	-4	-2	-49	-5	-2	-1	-41	4	7	8	-45	-1	3	4	-47	-2	2	4	4	4	4	5
20,000	-21.2	-31	-10	-6	-3	-27	-6	-2	-0	-16	7	10	11	-21	0	4	6	-24	-2	2	5	7	6	4	6
10,000	- 4.6	-20	-15	-10	-7	-13	-8	-4	-2	0	5	7	9	-6	-2	3	5	-10	-5	-0	2	8	6	4	6
GOOSE BAY TO NEW YORK																						934 N.MI.			
53,000	-56.5	-57	-0	2	4	-54	3	5	7	-55	1	4	5	-58	-1	2	4	-56	1	4	5	4	4	4	5
40,000	-56.5	-54	3	7	9	-53	3	7	10	-53	4	7	8	-53	3	7	9	-53	3	6	8	6	6	4	5
30,000	-44.5	-50	-5	-2	-1	-48	-4	-1	0	-39	5	8	9	-44	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-29	-7	-3	-1	-25	-4	-0	1	-13	8	11	12	-19	2	6	8	-21	-0	4	6	6	5	4	5
10,000	- 4.6	-17	-12	-7	-4	-10	-6	-2	-0	2	6	9	10	-4	0	4	6	-7	-3	1	4	7	5	3	6
GOOSE BAY TO SAN FRANCISCO																						2676 N.MI.			
53,000	-56.5	-57	-1	2	4	-54	2	5	6	[illegible]	1	4	5	-58	-1	1	3	-56	0	3	5	5	4	3	4
40,000	-56.5	-55	2	6	8	-54	2	6	8	- 3	4	7	8	-54	3	6	8	-54	3	6	7	6	6	4	5
30,000	-44.5	-52	-7	-4	-3	-49	-4	-2	-0	-40	5	7	8	-45	-0	3	4	-46	-2	2	4	4	4	3	4
20,000	-21.2	-31	-9	-5	-3	-25	-3	-0	2	-13	8	11	12	-20	1	5	7	-22	-1	3	4	7	5	3	5
10,000	- 4.6	-17	-12	-7	-5	-9	-5	-1	1	4	8	11	12	-4	0	4	7	-7	-2	1	5	7	6	4	6
GOOSE BAY TO VANCOUVER																						2295 N.MI.			
53,000	-56.5	-56	1	4	6	-52	5	8	9	-50	7	9	10	-55	2	4	6	-53	4	6	8	5	4	3	4
40,000	-56.5	-54	3	6	9	-52	4	8	10	-51	5	9	11	-53	4	7	9	-52	4	8	10	6	6	5	5
30,000	-44.5	-54	-9	-6	-5	-50	-6	-3	-2	-42	2	5	6	-47	-3	0	2	-48	-4	-0	2	4	4	4	4
20,000	-21.2	-35	-14	-9	-6	-28	-7	-3	-1	-16	5	8	9	-24	-2	2	4	-26	-4	0	3	7	6	4	6
10,000	- 4.6	-21	-17	-12	-9	-13	-9	-5	-3	-1	4	7	8	-9	-4	0	3	-11	-6	-2	1	8	6	4	7
GOOSE BAY TO WINNIPEG																						1371 N.MI.			
53,000	-56.5	-56	1	4	6	-52	5	8	9	-51	6	8	10	-54	2	5	6	-53	3	6	8	5	4	4	4
40,000	-56.5	-53	3	7	9	-52	5	9	11	-51	6	9	11	-52	5	8	10	-52	5	8	10	6	4	5	6
30,000	-44.5	-53	-9	-6	-4	-50	-8	-3	-2	-42	1	6	7	-47	-2	1	2	-48	-4	0	3	4	4	4	4
20,000	-21.2	-35	-14	-9	-7	-28	-7	-3	-1	-16	6	8	10	-23	-2	2	4	-26	-4	0	3	7	6	4	4
10,000	- 4.6	-23	-18	-13	-10	-14	-9	-5	-3	-1	4	6	8	-8	-4	1	3	-11	-7	-2	1	8	6	4	7
GRAND CAYMAN TO MIAMI																						396 N.MI.			
53,000	-56.5	-75	-19	-17	-16	-73	-17	-15	-14	-72	-15	-14	-13	-76	-20	-18	-17	-74	-18	-16	-15	3	3	2	3
40,000	-56.5	-55	1	3	4	-55	2	3	4	-56	0	1	2	-54	2	3	4	-55	1	3	4	2	2	1	2
30,000	-44.5	-57	8	9	10	-55	9	10	11	-33	11	12	13	-33	12	13	14	-35	10	12	12	2	2	1	2
20,000	-21.2	-9	12	14	15	-8	13	15	15	-7	15	15	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	- 4.6	7	11	13	13	7	12	13	14	9	13	14	14	9	13	14	15	8	12	13	14	2	2	1	2
GRAND CAYMAN TO MONTEGO BAY																						201 N.MI.			
53,000	-56.5	-77	-20	-18	-17	-75	-19	-17	-16	-72	-16	-15	-14	-77	-21	-19	-18	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	2	4	4	-54	3	4	5	-56	0	1	2	-54	3	4	4	-55	2	3	4	2	2	1	2
30,000	-44.5	-36	9	10	11	-34	10	12	12	-33	11	12	13	-32	12	14	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	14	15	16	-7	14	16	16	-7	15	15	16	-6	15	16	17	-7	15	16	16	2	2	1	1
10,000	- 4.6	7	12	13	14	8	13	14	15	9	14	14	15	9	14	15	15	8	13	14	15	2	2	1	1

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
GRAND CAYMAN TO SAN JOSE																								632 N.MI.	
55,000	-56.5	-77	-20	-19	-18	-76	-19	-18	-17	-73	-17	-16	-15	-78	-22	-20	-19	-76	-20	-58	-17	3	3	2	3
40,000	-56.5	-54	2	4	4	-56	3	4	5	-56	1	2	2	-54	3	4	4	-54	2	3	4	2	2	2	2
50,000	-44.5	-55	9	11	11	-34	11	12	13	-33	12	13	13	-32	13	14	14	-33	11	13	13	2	2	1	2
20,000	-21.2	-7	14	15	16	-6	15	16	17	-7	15	15	16	-6	16	16	17	-6	15	16	16	2	2	1	1
10,000	- 4.6	8	13	14	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	55	55	2	2	1	5
GRENADA TO PORT OF SPAIN																								96 N.MI.	
55,000	-56.5	-78	-21	-20	-19	-78	-22	-20	-19	-73	-17	-15	-14	-77	-21	-19	-18	-77	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	5	5	-55	4	5	6	-55	1	3	4	-54	3	4	5	-54	3	4	5	3	2	2	2
10,000	-44.5	-33	11	12	13	-31	13	14	15	-33	11	12	13	-31	13	14	15	-32	12	14	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-6	55	17	17	-7	14	15	16	-6	16	17	17	-6	15	16	17	2	2	5	5
10,000	- 4.6	8	13	14	15	9	14	15	16	9	14	15	15	10	14	15	14	9	14	15	15	2	2	1	2
GRENADA TO ST. VINCENT																								70 N.MI.	
55,000	-56.5	-78	-21	-19	-19	-78	-22	-20	-19	-73	-16	-15	-14	-77	-21	-19	-18	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	5	6	-51	3	5	6	-55	1	3	3	-54	3	4	4	-54	3	4	5	3	2	2	2
50,000	-44.5	-14	11	12	13	-12	13	14	15	-33	11	12	13	-31	13	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-7	14	16	16	-6	15	16	17	-7	14	15	16	-6	16	17	17	-6	15	16	17	2	2	1	5
10,000	- 4.6	8	13	14	15	9	14	15	55	9	14	15	15	9	14	15	16	9	14	15	15	2	2	5	1
GUAM TO HONOLULU																								3207 N.MI.	
55,000	-56.5	-75	-18	-16	-15	-71	-15	-12	-11	-73	-17	-14	-13	-73	-17	-15	-14	-73	-17	-54	-13	3	3	3	3
40,000	-56.5	-52	4	7	8	-55	2	4	6	-54	2	4	5	-54	3	4	5	-54	3	5	7	3	4	3	2
10,000	-44.5	-31	12	14	15	-14	10	12	13	-32	12	14	14	-32	12	14	15	-33	52	53	54	3	3	2	2
20,000	-21.2	-8	13	15	16	-8	14	15	16	-5	16	17	18	-6	15	17	18	-7	15	56	57	2	2	2	2
10,000	- 4.6	8	12	14	15	8	12	14	15	10	14	15	15	10	14	16	16	9	55	15	55	2	2	2	2
GUAM TO MANILA																								5384 N.MI.	
55,000	-56.5	-80	-23	-21	-20	-78	-22	-20	-18	-77	-21	-18	-17	-76	-20	-18	-17	-78	-21	-19	-18	3	3	4	3
40,000	-56.5	-55	4	5	5	-55	4	6	7	-54	1	5	6	-51	1	5	5	-55	3	5	6	2	3	3	2
10,000	-44.5	-10	14	16	16	-31	13	15	16	-11	14	15	56	-31	14	15	16	-31	54	55	56	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	16	17	18	-5	17	18	18	-5	16	17	57	-5	16	57	18	2	2	5	2
10,000	- 4.6	10	15	16	16	10	15	16	17	11	15	16	57	10	15	16	17	10	15	16	56	2	2	1	2
GUAM TO NANDI																								2693 N.MS.	
51,000	-56.5	-81	-24	-22	-22	-79	-23	-21	-20	-78	-23	-19	-58	-79	-22	-20	-19	-79	-23	-20	-19	2	3	3	3
40,000	-56.5	-55	1	5	5	-52	4	6	7	-55	2	3	4	-54	2	4	4	-54	3	5	6	2	2	2	2
10,000	-44.5	-51	14	15	16	-52	13	14	15	-32	12	14	14	-32	13	14	55	-52	13	14	55	2	2	2	2
23,000	-21.2	-4	17	18	19	-6	16	17	17	-6	15	16	17	-6	15	16	17	-5	16	17	18	2	2	2	2
10,000	- 4.6	10	15	56	17	10	15	16	57	9	14	15	15	10	14	55	14	50	54	56	56	2	2	2	1
GUAM TO NOUMEA																								2494 N.MI.	
55,000	-56.5	-80	-24	-22	-21	-79	-23	-20	-19	-77	-21	-19	-18	-78	-22	-20	-19	-79	-22	-20	-59	2	3	3	3
40,000	-56.5	-51	4	5	5	-52	4	6	7	-56	2	4	4	-56	2	4	5	-53	3	5	6	2	3	2	2
50,000	-44.5	-11	14	15	16	-12	11	14	15	-32	12	14	14	-32	52	14	15	-52	13	54	15	2	2	2	2
20,000	-21.2	-4	17	58	19	-6	15	17	17	-6	15	16	17	-6	15	16	17	-6	56	57	18	2	2	2	2
10,000	- 4.6	10	15	16	17	10	14	16	16	9	15	15	15	9	14	15	15	10	14	55	56	2	2	2	2
GUAM TO TOKYO																								5551 N.MI.	
55,000	-56.5	-71	-14	-52	-10	-69	-11	-10	-8	-70	-14	-11	-9	-70	-13	-10	-9	-70	-13	-50	-9	4	4	4	4
40,000	-56.5	-50	6	9	10	-54	1	5	7	-51	5	8	9	-52	4	6	7	-52	5	7	9	4	4	4	3
10,000	-44.5	-12	12	15	16	-14	10	12	13	-50	15	17	18	-51	14	16	17	-12	53	55	56	4	3	3	3
20,000	-21.2	-11	10	12	13	-8	13	15	16	-4	17	58	59	-6	15	17	18	-7	14	16	57	3	3	2	3
10,000	- 4.6	5	8	9	10	7	11	11	14	13	15	56	17	9	13	55	16	7	12	14	15	3	3	2	2
GUATEMALA CITY TO HAVANA																								686 N.MI.	
55,000	-56.5	-76	-20	-18	-17	-75	-19	-17	-16	-73	-16	-15	-15	-78	-23	-19	-18	-76	-19	-17	-56	3	3	2	3
40,000	-56.5	-55	2	1	4	-54	2	4	4	-56	0	1	2	-54	2	4	4	-55	2	3	4	2	2	1	2
50,000	-44.5	-16	9	10	51	-14	10	11	12	-33	12	13	55	-32	52	13	14	-54	11	52	13	2	2	1	2
20,000	-21.2	-8	55	15	16	-7	15	16	17	-6	15	15	16	-6	15	16	17	-7	15	16	16	2	2	5	1
10,000	- 4.6	8	12	14	14	9	13	15	16	9	14	15	15	10	14	15	16	9	13	15	55	2	2	1	1
GUATEMALA CITY TO HOUSTON																								962 N.MI.	
55,000	-56.5	-75	-18	-16	-15	-73	-16	-14	-11	-73	-56	-15	-14	-77	-20	-18	-17	-74	-18	-16	-15	3	3	2	3
40,000	-56.5	-56	1	2	3	-55	1	1	4	-56	1	2	2	-54	2	3	4	-55	3	3	3	3	2	3	2
10,000	-44.5	-57	7	9	9	-56	8	10	10	-12	12	13	14	-55	11	13	13	-55	50	51	52	2	2	3	2
20,000	-21.2	-9	12	11	14	-8	13	14	15	-6	15	16	16	-7	15	16	16	-8	14	55	55	2	2	1	2
10,000	- 4.6	6	11	11	54	8	11	15	16	10	54	15	15	9	14	15	16	9	11	54	55	2	3	3	2
GUATEMALA CITY TO KINGSTON																								857 N.MI.	
55,000	-56.5	-77	-21	-19	-18	-76	-20	-18	-17	-73	-17	-15	-15	-78	-21	-19	-18	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	2	4	5	-51	1	4	5	-56	3	2	2	-54	3	4	4	-54	2	4	4	2	2	2	2
50,000	-44.5	-55	10	51	52	-11	11	12	11	-33	12	13	13	-12	51	14	14	-33	11	13	13	2	2	3	2
20,000	-21.2	-7	14	15	56	-6	15	16	17	-7	55	15	16	-6	16	16	17	-6	15	16	56	2	2	1	3
10,000	- 4.6	8	51	14	14	9	11	15	56	9	14	15	15	10	14	15	16	9	54	15	15	2	2	3	1
GUATEMALA CITY TO LIMA																								1790 N.MI.	
55,000	-56.5	-78	-22	-20	-59	-77	-21	-19	-18	-74	-17	-15	-14	-77	-20	-19	-18	-77	-20	-58	-16	3	3	3	3
40,000	-56.5	-54	3	4	5	-55	4	6	7	-55	2	3	4	-54	2	4	4	-54	3	5	6	2	3	2	2
10,000	-44.5	-32	12	13	14	-11	13	15	15	-32	12	14	14	-31	13	15	15	-52	13	14	55	2	2	2	2
20,000	-21.2	-5	56	17	18	-5	16	18	18	-7	14	15	55	-6	16	17	17	-6	16	17	18	2	2	3	3
10,000	- 4.6	9	14	15	16	10	14	15	16	9	13	14	15	10	15	16	16	9	14	15	56	2	2	2	1
GUATEMALA CITY TO LOS ANGELES																								1905 N.MS.	
51,000	-56.5	-72	-16	-14	-13	-71	-14	-12	-11	-72	-15	-14	-13	-75	-58	-16	-15	-72	-16	-53	-12	3	3	2	3
40,000	-56.5	-56	1	1	5	-56	0	2	1	-55	1	3	3	-55	2	3	4	-55	1	3	4	4	3	2	2
50,000	-44.5	-59	5	7	8	-38	6	8	8	-33	12	13	14	-35	10	13	12	-16	8	10	11	2	2	2	2
20,000	-21.2	-12	9	12	13	-10	11	13	14	-6	15	16	16	-8	13	15	16	-9	12	14	14	3	3	3	2
10,000	- 4.6	5	9	12	13	8	12	14	16	11	15	16	17	9	13	15	16	8	11	14	15	3	3	1	2
GUATEMALA CITY TO MERIDA																								585 N.MI.	
51,000	-56.5	-77	-20	-18	-18	-75	-19	-17	-16	-73	-17	-16	-15	-78	-22	-20	-19	-76	-19	-18	-17	3	3	2	3
40,000	-56.5	-55	2	3	4	-54	2	3	4	-56	0	1	2	-54	3	4	4	-55	2	3	4	2	2	3	2
50,000	-44.5	-36	9	10	11	-34	10	11	12	-33	12	13	13	-32	52	14	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	14	15	16	-6	15	16	17	-6	15	15	16	-6	15	16	17	-6	15	56	16	2	2	1	1
10,000	- 4.6	8	13	14	15	9	14	15	16	9	14	15	15	10	15	16	16	9	14	15	15	2	2	1	1

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50*	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
GUATEMALA CITY TO MEXICO CITY																									571 N.MI.
53,000	-56.5	-77	-20	-19	-18	-76	-19	-17	-16	-74	-17	-16	-15	-78	-22	-20	-19	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-55	2	3	4	-55	2	3	4	-56	1	2	2	-54	3	4	4	-55	2	3	4	2	2	2	2
30,000	-44.5	-36	9	10	11	-34	10	11	12	-33	12	13	13	-32	12	14	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	14	15	16	-6	15	16	17	-6	15	16	16	-6	15	16	17	-6	15	16	16	2	2	1	1
10,000	- 4.6	8	13	14	15	10	15	16	17	10	14	15	16	10	15	16	16	9	14	15	16	2	2	1	1
GUATEMALA CITY TO MIAMI																									886 N.MI.
53,000	-56.5	-76	-19	-18	-17	-74	-16	-16	-15	-73	-16	-15	-14	-77	-21	-19	-18	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-55	1	3	4	-54	2	3	4	-56	0	1	2	-54	2	4	4	-55	2	3	4	2	2	1	2
30,000	-44.5	-36	8	9	10	-35	10	11	11	-33	12	13	13	-33	12	13	14	-34	10	12	13	2	2	1	2
20,000	-21.2	-8	13	14	15	-7	14	15	16	-7	15	15	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	- 4.6	7	12	13	14	8	13	14	15	9	14	14	15	9	14	15	16	8	13	14	15	2	2	1	1
GUATEMALA CITY TO NEW ORLEANS																									916 N.MI.
53,000	-56.5	-75	-18	-17	-16	-73	-17	-15	-14	-72	-16	-15	-14	-77	-20	-18	-17	-74	-18	-16	-15	3	3	2	3
40,000	-56.5	-56	1	2	3	-55	1	3	4	-56	0	1	2	-54	2	3	4	-55	1	3	3	2	2	1	2
30,000	-44.5	-37	7	9	9	-36	9	10	10	-33	12	13	13	-33	11	13	13	-35	10	11	12	2	2	1	2
20,000	-21.2	-9	12	14	14	-8	13	[illegible]	[illegible]	-6	15	16	16	-6	15	16	16	-8	14	15	15	2	2	1	2
10,000	- 4.6	6	11	13	13	8	13	14	15	9	14	15	15	9	14	15	16	8	13	14	15	2	3	1	2
GUATEMALA CITY TO NEW YORK																									1792 N.MI.
53,000	-56.5	-71	-15	-13	-12	-69	-12	-10	-9	-69	-13	-11	-11	-73	-17	-14	-13	-71	-14	-12	-10	3	3	2	3
40,000	-56.5	-57	-0	2	3	-56	0	2	4	-56	1	2	2	-55	2	3	4	-56	1	3	4	3	3	2	3
30,000	-44.5	-40	5	7	7	-38	6	8	9	-33	11	12	13	-35	9	11	12	-37	8	10	11	2	2	2	3
20,000	-21.2	-12	9	11	12	-11	10	12	13	-7	14	15	16	-8	13	14	15	-10	12	13	14	3	3	2	2
10,000	- 4.6	3	7	9	10	4	9	11	12	8	13	14	14	7	12	13	14	6	10	12	13	3	3	1	2
GUATEMALA CITY TO PANAMA CITY																									733 N.MI.
53,000	-56.5	-78	-21	-19	-18	-77	-20	-19	-18	-74	-17	-16	-15	-78	-22	-20	-19	-77	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-53	4	5	6	-55	1	2	3	-54	3	4	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-34	11	12	12	-32	13	14	14	-33	12	13	13	-31	13	14	15	-32	12	13	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-5	16	17	18	-7	15	15	16	-6	16	17	17	-6	15	17	17	2	2	1	1
10,000	- 4.6	9	13	14	15	9	14	15	16	9	14	15	15	10	15	16	16	9	14	15	16	2	2	1	1
GUATEMALA CITY TO SAN PEDRO SULA																									155 N.MI.
53,000	-56.5	-77	-21	-19	-18	-76	-20	-18	-17	-74	-17	-16	-15	-78	-22	-20	-19	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	2	4	5	-54	3	4	5	-56	1	2	2	-54	3	4	4	-54	2	3	4	2	2	2	2
30,000	-44.5	-35	10	11	12	-33	11	12	13	-33	12	13	13	-32	13	14	14	-33	11	13	13	2	2	1	2
20,000	-21.2	-7	14	16	16	-5	16	17	18	-7	15	15	16	-6	16	16	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	10	14	16	17	9	14	15	15	10	15	16	16	9	14	15	16	2	2	1	1
GUATEMALA CITY TO SAN SALVADOR																									1070 N.MI.
53,000	-56.5	-76	-20	-18	-17	-75	-18	-16	-16	-72	-16	-15	-14	-77	-21	-19	-18	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-55	2	3	4	-54	2	4	4	-56	0	1	2	-54	2	4	4	-55	2	3	4	2	2	1	2
30,000	-44.5	-36	9	10	11	-34	10	11	12	-33	12	12	13	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	13	15	15	-7	14	16	16	-7	15	15	16	-6	15	16	17	-7	14	16	16	2	2	1	1
10,000	- 4.6	7	12	13	14	8	13	14	15	9	14	14	15	9	14	15	15	8	13	14	15	2	2	1	1
GUATEMALA CITY TO SANTO DOMINGO																									1222 N.MI.
53,000	-56.5	-77	-20	-19	-18	-76	-20	-18	-17	-73	-16	-15	-14	-78	-21	-19	-13	-76	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	2	4	5	-54	3	4	5	-56	1	2	2	-54	3	4	4	-54	2	4	4	2	2	2	2
30,000	-44.5	-35	10	11	12	-33	11	12	13	-33	11	12	13	-32	13	14	14	-33	11	13	13	2	2	1	2
20,000	-21.2	-7	14	15	16	-6	15	16	17	-7	15	15	16	-6	14	16	17	-6	15	16	16	2	2	1	1
10,000	- 4.6	8	12	14	14	9	13	15	15	9	14	15	15	10	14	15	16	9	13	14	15	2	2	1	1
GUAYAQUIL TO HOUSTON																									2106 N.MI.
53,000	-56.5	-77	-20	-18	-17	-75	-19	-17	-16	-73	-17	-15	-14	-77	-21	-19	-18	-76	-19	-17	-16	3	3	2	3
40,000	-56.5	-55	2	3	4	-54	3	4	5	-55	1	2	3	-54	2	3	4	-55	2	4	5	2	2	2	2
30,000	-44.5	-35	10	11	11	-33	11	12	13	-33	12	13	15	-32	12	14	14	-33	11	13	13	2	2	2	2
20,000	-21.2	-7	14	15	16	-6	15	16	17	-7	15	15	16	-6	15	16	17	-7	15	16	16	2	2	1	2
10,000	- 4.6	8	12	14	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	15	2	2	1	1
GUAYAQUIL TO LIMA																									620 N.MI.
53,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-18	-73	-17	-16	-15	-75	-18	-16	-15	-76	-19	-16	-15	3	3	3	3
40,000	-56.5	-53	5	5	6	-52	4	7	8	-54	3	4	5	-54	2	4	5	-53	3	5	7	3	3	2	2
30,000	-44.5	-32	13	14	15	-31	14	15	16	-32	12	14	15	-31	13	15	15	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	17	18	18	-5	16	18	18	-8	13	14	15	-6	15	16	17	-6	15	17	18	2	2	2	2
10,000	- 4.6	10	14	15	16	9	14	15	16	8	13	14	15	9	14	15	16	9	14	15	16	2	2	2	2
GUAYAQUIL TO MIAMI																									1678 N.MI.
53,000	-56.5	-77	-21	-19	-18	-76	-20	-18	-17	-73	-17	-15	-14	-77	-21	-19	-18	-76	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	2	4	5	-53	4	5	6	-55	1	2	3	-54	2	4	4	-54	2	4	5	2	2	2	2
30,000	-44.5	-34	10	12	12	-32	12	13	14	-33	12	11	14	-32	13	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-6	16	17	17	-7	14	15	16	-6	16	16	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	13	15	15	9	14	15	15	10	14	15	16	9	14	15	15	2	2	1	1
GUAYAQUIL TO NEW ORLEANS																									2006 N.MI.
53,000	-56.5	-77	-20	-18	-17	-75	-19	-17	-16	-73	-17	-15	-14	-77	-21	-19	-18	-76	-19	-17	-16	3	3	2	3
40,000	-56.5	-55	2	3	4	-53	3	5	6	-56	1	2	3	-54	2	3	4	-54	2	4	5	2	2	2	2
30,000	-44.5	-35	10	11	12	-33	11	12	13	-33	12	13	14	-32	12	14	14	-33	11	13	14	2	2	2	2
20,000	-21.2	-7	14	15	16	-6	15	16	17	-7	15	15	16	-6	15	16	17	-7	15	16	16	2	2	1	1
10,000	- 4.6	8	12	14	15	9	13	15	16	9	14	15	15	10	14	15	16	9	13	15	15	2	2	1	1
GUAYAQUIL TO NEW YORK																									2590 N.MI.
53,000	-56.5	-74	-17	-15	-14	-72	-16	-14	-13	-71	-14	-13	-12	-75	-18	-16	-15	-73	-16	-14	-13	3	3	2	3
40,000	-56.5	-55	1	3	4	-54	2	4	5	-56	1	2	3	-55	2	4	4	-55	2	4	5	3	3	2	3
30,000	-44.5	-37	8	9	10	-35	9	11	12	-33	11	12	13	-33	11	13	13	-35	10	11	12	2	2	2	2
20,000	-21.2	-9	12	13	14	-8	13	14	15	-7	14	15	16	-7	14	15	16	-8	13	14	15	3	3	1	2
10,000	- 4.6	5	10	11	12	6	11	12	13	8	13	14	15	8	13	14	15	7	12	13	14	3	3	1	2
GUAYAQUIL TO PANAMA																									676 N.MI.
53,000	-56.5	-79	-22	-20	-19	-77	-21	-19	-18	-74	-17	-16	-15	-78	-21	-19	-18	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	6	7	-55	2	3	4	-54	2	4	4	-54	3	5	6	2	3	2	2
30,000	-44.5	-32	12	13	14	-30	14	15	16	-32	12	14	14	-31	14	15	15	-31	13	15	15	2	3	2	2
20,000	-21.2	-5	16	18	18	-4	17	18	19	-7	14	15	16	-6	16	17	17	-5	16	17	18	2	3	1	1
10,000	- 4.6	9	14	15	16	10	14	15	16	9	14	15	15	10	15	16	16	10	14	15	16	2	2	2	1

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
GUAYAQUIL TO QUITO																									168 N.MI.
51,000	-56.5	-79	-23	-21	-20	-78	-21	-19	-18	-74	-17	-15	-14	-77	-20	-18	-17	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-54	2	4	5	-54	2	3	4	-54	3	5	6	3	3	2	2
30,000	-44.5	-32	13	14	14	-30	14	16	16	-32	13	14	15	-31	14	15	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-4	17	18	19	-4	17	18	19	-7	14	15	16	-6	16	17	17	-5	16	17	18	2	2	1	1
10,000	- 4.6	10	14	15	16	10	14	15	16	9	14	15	15	10	15	16	16	10	14	15	16	2	2	2	1
GUAYAQUIL TO RIO DE JANEIRO																									2464 N.MI.
51,000	-56.5	-77	-20	-18	-16	-76	-19	-17	-16	-70	-14	-11	-10	-72	-15	-13	-12	-74	-17	-14	-12	4	3	4	3
40,000	-56.5	-53	4	6	7	-52	5	7	8	-53	4	6	6	-54	3	4	5	-53	4	6	8	3	4	3	3
30,000	-44.5	-32	13	14	15	-32	13	15	16	-33	11	13	14	-32	13	14	15	-32	12	14	15	2	3	3	2
20,000	-21.2	-5	16	18	19	-6	16	17	18	-9	12	13	14	-7	15	16	17	-7	15	16	17	2	2	2	2
10,000	- 4.6	10	14	16	16	9	14	15	16	7	11	13	13	9	14	15	16	9	13	15	16	2	2	2	2
GUAYAQUIL TO SANTIAGO																									1969 N.MI.
53,000	-56.5	-74	-17	-15	-14	-73	-17	-15	-14	-68	-12	-9	-8	-69	-12	-10	-9	-71	-15	-12	-10	3	3	4	3
40,000	-56.5	-53	1	6	7	-53	3	6	7	-53	4	6	7	-54	3	5	6	-53	3	5	7	3	4	3	3
30,000	-44.5	-33	11	13	14	-34	11	13	13	-36	9	11	12	-34	11	13	14	-34	10	12	13	3	3	3	3
20,000	-21.2	-7	15	16	17	-8	13	15	16	-12	9	10	11	-8	13	15	16	-9	13	14	14	2	2	2	2
10,000	- 4.6	9	13	15	16	7	12	13	14	5	9	11	12	7	11	13	13	7	11	13	14	2	2	2	2
HAMBURG TO HELSINKI																									631 N.MI.
53,000	-56.5	-57	-1	2	4	-55	4	7	8	-47	10	12	13	-56	0	3	4	-53	3	7	8	5	4	3	4
40,000	-56.5	-59	-3	1	3	-54	3	7	9	-50	7	10	12	-56	1	4	6	-54	2	6	9	5	6	5	5
30,000	-44.5	-53	-8	-6	-4	-50	-5	-3	-1	-42	3	5	7	-46	-1	1	3	-48	-3	1	3	4	4	4	4
20,000	-21.2	-31	-9	-5	-3	-25	-4	-1	1	-16	6	8	9	-21	0	4	6	-23	-2	2	4	6	5	4	5
10,000	- 4.6	-15	-11	-6	-4	-10	-5	-2	0	-0	4	6	8	-6	-2	2	3	-8	-3	0	2	4	5	3	5
HAMBURG TO ISTANBUL																									1073 N.MI.
53,000	-56.5	-56	1	4	5	-54	2	5	6	-52	4	7	8	-58	-2	1	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	1	4	6	-50	7	9	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-48	-3	-1	1	-39	5	8	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	4	-13	8	10	11	-18	4	6	8	-20	1	5	7	5	5	3	4
10,000	- 4.6	-12	-8	-4	-2	-6	-1	2	3	2	7	9	10	-2	2	5	7	-5	0	4	6	5	5	3	4
HAMBURG TO KEFLAVIK																									1168 N.MI.
51,000	-56.5	-58	-1	2	4	-51	5	8	10	-47	10	12	13	-55	1	4	5	-53	4	7	9	5	4	3	4
40,000	-56.5	-57	-1	3	6	-52	5	10	12	-48	8	12	14	-55	2	6	8	-53	4	8	11	6	7	6	6
30,000	-44.5	-52	-8	-5	-3	-48	-4	-1	0	-43	1	4	5	-46	-2	1	3	-47	-3	1	2	4	4	4	5
20,000	-21.2	-29	-8	-4	-2	-26	-5	-2	0	-18	4	6	8	-22	-1	3	5	-24	-3	1	3	6	5	4	6
10,000	- 4.6	-13	-8	-5	-3	-10	-6	-3	-1	-2	3	5	6	-6	-2	1	3	-8	-3	0	2	5	5	3	5
HAMBURG TO LISBON																									1186 N.MI.
51,000	-56.5	-58	-2	2	4	-55	1	4	5	-54	2	5	6	-59	-3	-0	1	-57	-0	3	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-0	4	6	-53	4	7	9	-56	0	3	5	-56	0	4	6	4	4	5	5
30,000	-44.5	-49	-4	-2	-0	-46	-2	1	2	-39	6	8	9	-43	2	4	6	-44	0	4	5	4	4	4	4
20,000	-21.2	-24	-3	1	2	-21	1	3	5	-13	9	11	12	-17	5	7	9	-18	3	6	8	5	4	4	4
10,000	- 4.6	-7	-3	1	2	-4	1	3	5	4	8	11	12	-1	4	6	8	-2	2	6	8	5	4	3	4
HAMBURG TO LONDON																									402 N.MI.
51,000	-56.5	-57	-1	3	4	-53	3	6	7	-49	7	9	11	-57	-1	2	3	-54	2	6	7	5	4	4	4
40,000	-56.5	-56	-2	2	4	-55	2	6	8	-51	6	10	12	-56	0	4	6	-55	1	4	8	6	7	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	0	-41	3	6	7	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-23	-2	1	1	-15	6	9	10	-19	2	6	7	-21	0	4	6	6	5	3	5
10,000	- 4.5	-11	-6	-3	-1	-7	-2	1	2	1	5	8	9	-4	1	4	6	-5	-1	3	5	6	4	3	5
HAMBURG TO LOS ANGELES																									4905 N.MI.
51,000	-56.5	-58	-2	2	4	-52	5	8	9	-50	7	9	10	-56	1	3	5	-54	3	6	7	6	4	3	4
40,000	-56.5	-56	0	5	7	-52	4	8	11	-49	7	10	12	-55	4	7	9	-53	4	8	10	6	6	5	5
30,000	-44.5	-53	-9	-6	-5	-49	-5	-2	-1	-42	2	5	6	-47	-2	1	2	-48	-3	0	2	4	4	4	4
20,000	-21.2	-32	-11	-7	-5	-28	-6	-3	-1	-17	5	7	8	-25	-2	2	4	-25	-4	0	3	6	5	4	6
10,000	- 4.6	-17	-13	-9	-7	-12	-7	-4	-2	-0	4	7	8	-8	-4	0	2	-10	-5	-1	2	6	5	4	6
HAMBURG TO MADRID																									961 N.MI.
53,000	-56.5	-58	-1	2	4	-55	1	4	4	-54	3	5	7	-59	-2	0	2	-56	0	3	5	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-0	4	6	-52	4	7	9	-56	0	3	5	-56	0	4	6	4	6	5	5
30,000	-44.5	-49	-5	-2	-1	-47	-2	0	2	-39	5	8	9	-43	2	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-25	-4	-0	2	-21	0	3	4	-13	8	11	12	-17	4	7	9	-19	2	6	8	5	4	3	4
10,000	- 4.6	-8	-4	-0	2	-4	0	3	4	3	8	10	11	-1	3	6	7	-3	2	5	7	5	4	3	4
HAMBURG TO MILAN																									482 N.MI.
53,000	-56.5	-56	0	4	5	-54	2	5	6	-51	5	8	9	-58	-1	1	2	-55	2	5	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	0	4	6	-52	5	8	10	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-51	-6	-3	-2	-48	-3	-1	1	-40	4	7	8	-44	1	4	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	3	-14	8	10	11	-18	3	6	8	-20	1	5	6	6	4	3	5
10,000	- 4.6	-11	-6	-3	-1	-6	-2	1	3	2	7	9	10	-3	2	5	7	-4	0	4	6	6	4	3	5
HAMBURG TO MONTREAL																									3104 N.MI.
53,000	-56.5	-56	0	3	5	-52	5	7	9	-49	7	10	11	-55	2	4	6	-53	3	7	8	5	4	4	4
40,000	-56.5	-54	2	7	9	-52	5	9	11	-50	6	10	12	-53	3	7	9	-52	4	8	10	6	7	5	6
30,000	-44.5	-51	-6	-3	-2	-48	-4	-1	0	-42	2	5	7	-45	-1	2	4	-47	-2	2	3	4	4	4	4
20,000	-21.2	-30	-9	-4	-2	-26	-5	-1	1	-16	5	8	9	-22	-0	3	5	-25	-2	2	4	7	6	4	6
10,000	- 4.6	-15	-11	-7	-4	-11	-6	-3	-1	-1	4	6	7	-7	-2	2	4	-8	-4	0	2	6	5	3	5
HAMBURG TO MOSCOW																									955 N.MI.
53,000	-56.5	-56	0	3	5	-53	4	6	8	-47	9	11	13	-56	1	3	5	-53	4	7	9	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	2	6	8	-50	7	10	12	-55	1	4	6	-55	2	6	8	5	6	5	5
30,000	-44.5	-53	-8	-6	-4	-49	-5	-2	-0	-41	4	6	8	-45	-1	2	3	-47	-3	1	4	4	4	4	4
20,000	-21.2	-30	-9	-5	-3	-24	-3	0	2	-15	6	9	10	-20	1	5	7	-22	-1	3	5	6	5	4	6
10,000	- 4.6	-15	-10	-6	-4	-9	-4	-1	1	-0	5	7	8	-6	-2	2	4	-8	-3	1	3	6	5	3	5
HAMBURG TO MUNICH																									336 N.MI.
53,000	-56.5	-56	0	4	5	-54	3	5	7	-50	6	9	10	-58	-1	1	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	5	9	10	-56	0	3	5	-55	1	5	7	6	6	5	5
30,000	-44.5	-51	-7	-4	-2	-48	-4	-1	0	-41	4	6	8	-44	0	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-0	-23	-2	1	3	-14	7	9	11	-18	3	6	8	-21	0	4	6	6	4	3	5
10,000	- 4.6	-12	-7	-3	-1	-7	-2	1	2	2	6	8	10	-5	1	4	6	-5	-1	3	5	6	4	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
HAMBURG TO NEW YORK																									3501 N.MI.
55,000	-56.5	-57	-0	3	4	-55	4	6	8	-51	6	8	9	-56	0	3	5	-54	2	5	7	4	4	4	4
40,000	-56.5	-55	2	6	8	-53	3	8	10	-51	6	9	11	-54	3	7	9	-53	3	7	9	6	7	5	6
30,000	-44.5	-50	-5	-2	-1	-48	-3	-0	1	-41	3	6	8	-44	0	3	4	-46	-1	2	4	4	4	4	4
20,000	-21.2	-28	-7	-2	-0	-25	-3	0	2	-15	6	9	10	-20	1	5	7	-22	-1	3	6	7	5	4	5
10,000	- 4.6	-14	-9	-5	-3	-9	-5	-1	1	0	5	7	8	-5	-0	3	5	-7	-2	1	3	6	5	3	5
HAMBURG TO OSLO																									377 N.MI.
55,000	-56.5	-58	-1	2	4	-53	4	7	8	-47	9	11	12	-56	0	3	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	4	-53	3	7	10	-49	7	11	13	-56	0	4	6	-54	2	7	9	6	6	6	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-42	2	5	6	-46	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-30	-9	-5	-2	-25	-4	-1	1	-16	5	8	9	-21	1	4	6	-23	-2	2	4	6	5	4	5
10,000	- 4.6	-14	-9	-5	-3	-9	-4	-1	3	-0	4	6	8	-6	-2	2	4	-7	-3	1	3	6	5	3	5
HAMBURG TO PARIS																									397 N.MI.
55,000	-56.5	-57	-0	3	5	-56	3	5	7	-50	6	9	10	-58	-1	2	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-55	1	5	8	-53	5	9	11	-56	0	3	5	-55	1	6	8	6	6	5	5
30,000	-44.5	-51	-6	-3	-2	-48	-3	-1	3	-41	4	6	8	-44	0	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-23	-2	2	3	-14	7	9	10	-18	3	6	8	-21	1	4	6	6	5	3	5
10,000	- 4.6	-31	-6	-2	-0	-7	-2	1	3	1	6	8	9	-5	1	4	6	-5	-0	3	5	6	4	3	5
HAMBURG TO PRAGUE																									265 N.MI.
55,000	-56.5	-56	0	3	5	-53	3	6	7	-49	7	9	11	-57	-1	2	3	-56	2	6	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	5	7	-51	6	9	11	-56	0	3	5	-55	1	6	8	5	6	5	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-41	4	6	8	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-14	7	9	10	-19	2	6	8	-21	0	4	6	6	5	3	5
10,000	- 4.6	-13	-8	-4	-2	-7	-3	0	2	1	6	8	9	-4	0	4	6	-6	-1	2	4	6	5	3	5
HAMBURG TO RIO DE JANEIRO																									5569 N.MI.
55,000	-56.5	-70	-14	-11	-10	-69	-13	-11	-9	-67	-11	-9	-7	-70	-13	-11	-10	-69	-33	-10	-9	4	3	3	3
40,000	-56.5	-56	1	4	5	-55	2	5	6	-53	4	6	7	-54	2	4	5	-54	2	4	6	4	4	3	3
30,000	-44.5	-59	8	7	8	-37	8	10	11	-35	10	12	12	-35	9	11	12	-36	8	10	11	3	3	2	3
20,000	-21.2	-12	9	11	12	-11	10	12	13	-9	13	14	15	-9	12	14	14	-10	11	13	14	3	3	2	2
10,000	- 4.6	4	8	10	11	5	9	11	12	8	12	14	14	6	11	13	13	6	10	12	13	3	3	2	2
HAMBURG TO ROME																									718 N.MI.
55,000	-56.5	-56	0	4	5	-55	2	5	6	-52	4	6	8	-58	-2	3	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-0	4	6	-52	5	8	10	-56	0	3	5	-56	1	5	7	5	6	5	4
30,000	-44.5	-51	-6	-3	-2	-48	-3	-0	1	-40	5	7	9	-45	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-22	-1	2	4	-13	8	10	11	-17	4	7	8	-20	1	5	7	5	4	3	4
10,000	- 4.8	-10	-8	-2	-0	-6	-1	2	3	3	8	10	11	-2	2	5	7	-4	1	4	6	5	4	3	4
HAMBURG TO SANTA MARIA																									1761 N.MI.
55,000	-56.5	-59	-2	1	3	-56	1	3	5	-55	2	4	6	-60	-3	-0	3	-57	-1	2	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	4	6	-53	4	7	9	-56	0	3	5	-56	0	4	6	6	6	5	5
30,000	-44.5	-48	-4	-1	0	-46	-1	1	3	-39	6	8	9	-42	2	5	6	-44	1	4	6	4	4	4	4
20,000	-21.2	-23	-2	2	4	-20	1	4	5	-12	9	11	12	-16	5	8	10	-18	3	7	8	5	4	3	4
10,000	- 4.6	-7	-2	1	3	-4	1	4	5	3	8	10	11	-1	4	7	8	-2	3	6	7	5	4	3	4
HAMBURG TO SHANNON																									680 N.MI.
55,000	-56.5	-57	-1	2	4	-53	3	6	7	-49	7	10	11	-57	-1	2	4	-54	2	6	8	5	4	4	4
40,000	-56.5	-58	-2	3	5	-54	2	7	9	-50	6	10	12	-56	0	4	6	-55	2	7	9	6	7	6	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	1	-41	3	6	7	-45	-0	3	4	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-5	-1	1	-23	-2	1	3	-15	6	8	10	-19	2	5	7	-21	0	4	6	6	5	3	5
10,000	- 4.6	-10	-6	-2	-0	-7	-3	0	2	0	5	7	8	-4	1	4	6	-5	-1	3	5	5	4	3	5
HAMBURG TO STOCKHOLM																									445 N.MI.
55,000	-56.5	-57	-1	2	4	-53	4	7	8	-47	9	11	12	-56	0	3	4	-53	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-56	3	7	9	-50	7	10	12	-56	1	4	6	-55	2	7	9	5	6	5	5
30,000	-44.5	-53	-8	-5	-4	-50	-5	-3	-1	-42	3	5	7	-46	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-30	-9	-5	-3	-25	-4	-1	1	-16	6	8	9	-21	1	4	6	-23	-2	2	4	6	5	4	5
10,000	- 4.6	-14	-10	-8	-4	-9	-5	-1	0	-0	4	8	8	-6	-2	2	3	-6	-3	1	3	6	5	3	5
HAMBURG TO TEHERAN																									2026 N.MI.
55,000	-56.5	-57	-0	3	5	-55	2	4	5	-56	2	4	6	-58	-2	1	2	-56	0	3	4	5	4	3	4
40,000	-56.5	-57	-1	2	4	-55	1	5	7	-49	8	11	12	-56	1	3	5	-54	2	6	8	5	5	4	4
10,000	-44.5	-51	-7	-4	-3	-46	-2	1	2	-36	8	11	12	-43	2	4	5	-44	0	4	7	4	4	4	4
20,000	-21.2	-27	-5	-2	-0	-21	1	4	5	-11	11	13	14	-17	4	7	8	-19	2	6	8	5	5	3	4
10,000	- 4.6	-17	-7	-3	-1	-4	0	3	5	5	9	11	12	-2	3	6	8	-3	1	5	7	6	5	3	5
HAMBURG TO TEL AVIV-JAFFA																									1681 N.MI.
55,000	-56.5	-57	-1	2	4	-56	1	3	4	-57	-1	1	2	-60	-3	-1	0	-58	-1	2	3	4	3	3	4
40,000	-56.5	-57	-0	3	4	-56	1	4	6	-49	8	10	12	-56	0	3	4	-55	2	6	8	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-46	-2	0	2	-36	9	11	12	-42	2	5	6	-44	1	5	7	5	4	3	4
20,000	-21.2	-25	-4	-1	1	-21	1	3	5	-11	11	13	14	-16	5	7	9	-18	3	7	8	4	4	3	4
10,000	- 4.6	-10	-5	-2	-1	-4	0	3	5	5	9	11	12	-0	4	7	8	-2	2	6	8	5	4	3	4
HAMBURG TO VIENNA																									454 N.MI.
55,000	-56.5	-56	0	4	5	-56	3	5	7	-50	7	9	10	-58	-1	2	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	5	7	-51	6	9	11	-56	0	3	5	-55	1	5	8	5	6	5	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-41	4	6	8	-44	0	3	5	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-14	7	9	10	-18	3	6	8	-21	0	4	6	6	5	3	5
10,000	- 4.6	-13	-8	-4	-2	-7	-2	1	2	1	6	8	9	-4	1	4	6	-5	-1	3	5	6	5	3	5
HAMBURG TO WARSAW																									407 N.MI.
55,000	-56.5	-56	0	3	5	-53	3	6	7	-49	8	10	11	-57	-0	2	3	-54	3	6	8	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	2	6	8	-51	6	9	11	-56	0	3	5	-55	2	6	8	5	6	5	5
30,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-0	-41	3	6	7	-45	-0	3	5	-47	-2	2	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-1	-24	-3	1	2	-15	7	9	10	-19	2	5	7	-22	-0	3	5	6	5	4	5
10,000	- 4.6	-15	-9	-5	-3	-8	-3	-0	2	1	5	7	9	-5	-1	3	5	-7	-2	2	4	6	5	3	5
HAMBURG TO ZURICH																									375 N.MI.
55,000	-56.5	-56	0	3	5	-56	3	5	7	-50	6	8	10	-58	-3	1	3	-55	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-53	5	8	10	-56	0	3	5	-55	3	5	7	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-4	-1	1	-40	4	7	8	-44	1	3	5	-46	-3	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-23	-1	2	3	-14	7	9	11	-18	3	6	8	-21	1	4	6	6	4	3	5
10,000	- 4.6	-11	-7	-3	-1	-7	-2	1	3	2	6	9	10	-3	1	5	6	-5	-0	3	5	6	4	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
HAVANA TO HOUSTON																									797 N.MI.
55,000	-56.5	-73	-16	-14	-13	-71	-14	-12	-11	-71	-15	-13	-13	-75	-19	-17	-16	-73	-16	-14	-12	3	3	2	3
40,000	-56.5	-57	-0	2	3	-56	1	3	4	-56	0	1	2	-55	2	3	4	-56	1	2	3	3	3	1	2
30,000	-44.5	-39	6	7	8	-37	7	8	9	-33	12	13	13	-34	10	12	13	-36	9	10	11	2	2	3	2
20,000	-21.2	-11	10	12	13	-10	13	13	14	-6	15	16	16	-7	14	15	16	-9	13	14	15	3	2	3	2
10,000	-4.6	5	9	11	12	7	11	13	14	9	14	15	15	9	13	15	15	7	12	13	14	3	3	1	2
HAVANA TO KINGSTON																									459 N.MI.
55,000	-56.5	-76	-20	-18	-17	-75	-18	-16	-15	-72	-16	-14	-14	-77	-20	-18	-17	-75	-18	-17	-16	3	3	2	3
40,000	-56.5	-55	2	3	4	-54	2	4	4	-56	0	1	2	-54	2	4	4	-55	2	3	4	2	2	3	2
30,000	-44.5	-36	8	10	10	-35	10	11	12	-33	11	12	13	-32	12	13	14	-34	10	12	13	2	2	3	2
20,000	-21.2	-8	13	14	15	-7	14	15	16	-7	15	15	16	-6	15	16	17	-7	14	15	16	2	2	1	1
10,000	-4.6	7	12	13	14	8	12	14	15	9	14	14	15	9	14	15	15	8	13	14	15	2	2	1	1
HAVANA TO LIMA																									2331 N.MI.
55,000	-56.5	-78	-21	-19	-18	-77	-20	-18	-17	-73	-17	-15	-14	-77	-20	-18	-17	-76	-20	-17	-16	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	4	6	7	-55	2	3	4	-54	2	4	4	-54	3	5	6	2	2	2	2
30,000	-44.5	-33	11	13	13	-32	13	14	15	-32	12	13	14	-31	13	14	15	-32	12	14	14	2	2	2	2
20,000	-21.2	-6	16	17	17	-5	16	17	18	-7	14	15	15	-6	16	16	17	-6	15	17	17	2	2	1	1
10,000	-4.6	9	13	15	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	15	2	2	2	1
HAVANA TO LISBON																									3790 N.MI.
55,000	-56.5	-66	-9	-7	-5	-63	-7	-4	-3	-64	-8	-6	-5	-67	-10	-8	-7	-65	-8	-6	-4	4	3	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	3	-55	1	3	4	-56	1	3	4	-57	-0	2	3	5	4	3	3
30,000	-44.5	-43	1	4	5	-42	3	5	6	-36	9	11	11	-37	7	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-16	5	8	9	-15	7	9	10	-9	12	14	15	-13	11	13	14	-13	9	11	12	4	3	2	3
10,000	-4.6	-0	4	7	8	1	6	8	9	7	11	13	13	5	9	11	12	3	8	10	11	4	3	2	3
HAVANA TO LONDON																									4037 N.MI.
55,000	-56.5	-62	-5	-3	-1	-59	-3	-0	1	-59	-2	0	1	-63	-6	-3	-2	-61	-4	-1	-0	4	3	3	4
40,000	-56.5	-57	-0	3	5	-56	0	4	6	-54	2	5	6	-55	2	5	6	-56	1	4	5	6	5	4	4
30,000	-44.5	-45	-1	2	3	-44	0	3	4	-38	7	9	10	-40	4	7	8	-42	3	6	7	4	3	3	4
20,000	-21.2	-20	1	4	6	-18	3	6	7	-11	10	12	13	-14	7	10	13	-16	5	8	10	5	4	3	4
10,000	-4.6	-6	-1	2	4	-3	2	4	6	4	9	10	11	1	5	8	9	-1	4	6	8	5	4	2	4
HAVANA TO LOS ANGELES																									1996 N.MI.
55,000	-56.5	-76	-13	-11	-10	-68	-11	-9	-8	-70	-14	-12	-12	-73	-16	-14	-13	-70	-14	-13	-10	3	3	2	3
40,000	-56.5	-56	0	3	4	-57	-0	2	3	-55	2	3	3	-55	1	3	4	-56	1	2	3	4	3	2	3
30,000	-44.5	-41	3	5	6	-40	5	6	7	-33	12	13	13	-36	9	10	11	-37	7	9	10	2	2	2	3
20,000	-21.2	-14	7	10	11	-12	9	11	12	-6	15	16	17	-9	13	14	15	-10	11	13	14	3	3	1	3
10,000	-4.6	3	7	10	11	6	10	13	14	11	16	17	17	8	12	14	15	7	11	13	14	4	4	1	3
HAVANA TO MADRID																									4025 N.MI.
55,000	-56.5	-65	-8	-6	-4	-62	-6	-3	-2	-63	-6	-5	-3	-66	-9	-7	-6	-64	-7	-5	-3	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	3	-55	1	3	4	-56	1	3	4	-57	-0	2	3	5	5	3	4
30,000	-44.5	-44	1	3	4	-42	2	4	6	-36	9	10	11	-38	6	9	10	-40	5	7	9	3	3	3	3
20,000	-21.2	-17	4	7	8	-16	6	8	9	-9	12	14	14	-11	10	12	13	-13	8	10	12	4	4	2	3
10,000	-4.6	-1	3	6	8	0	5	7	8	6	11	12	13	4	9	11	12	2	7	9	10	4	3	2	3
HAVANA TO MERIDA																									424 N.MI.
55,000	-56.5	-76	-19	-17	-16	-74	-17	-15	-14	-72	-16	-15	-14	-77	-21	-19	-18	-75	-18	-16	-16	3	3	2	3
40,000	-56.5	-56	1	2	3	-55	2	3	4	-56	0	1	2	-54	2	3	4	-55	1	3	3	2	2	1	2
30,000	-44.5	-37	8	9	10	-36	9	10	11	-33	12	13	13	-33	12	13	14	-34	10	11	12	2	2	1	2
20,000	-21.2	-9	13	14	15	-8	13	15	16	-6	15	16	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	-4.6	7	12	13	14	8	12	14	15	9	14	14	15	9	14	15	15	8	13	14	15	2	3	1	2
HAVANA TO MEXICO CITY																									957 N.MI.
55,000	-56.5	-76	-19	-17	-17	-74	-17	-15	-14	-73	-16	-15	-14	-78	-21	-19	-18	-75	-18	-17	-16	3	3	2	3
40,000	-56.5	-56	1	2	3	-55	2	3	4	-56	0	1	2	-54	2	3	4	-55	1	3	3	2	2	1	2
30,000	-44.5	-37	8	9	10	-36	9	10	11	-33	12	13	13	-33	12	13	14	-34	10	11	12	2	2	1	2
20,000	-21.2	-9	13	14	15	-8	14	15	16	-6	15	16	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	-4.6	7	12	13	14	9	13	15	16	9	14	15	15	10	14	15	16	9	13	15	15	2	3	1	1
HAVANA TO MIAMI																									203 N.MI.
55,000	-56.5	-74	-18	-16	-15	-72	-16	-14	-13	-71	-15	-14	-13	-76	-19	-17	-16	-73	-17	-15	-14	3	3	2	3
40,000	-56.5	-56	1	2	3	-55	2	3	4	-56	0	1	1	-55	2	3	4	-55	1	3	3	2	2	1	2
30,000	-44.5	-38	7	8	9	-36	8	10	10	-33	11	12	13	-33	11	13	13	-35	9	11	12	2	2	1	2
20,000	-21.2	-9	12	13	14	-9	12	14	15	-7	15	15	16	-6	15	16	17	-8	13	15	16	2	2	1	2
10,000	-4.6	6	11	12	13	7	11	13	14	9	13	14	14	9	13	14	15	8	12	13	15	2	3	1	2
HAVANA TO NEW ORLEANS																									578 N.MI.
55,000	-56.5	-73	-16	-15	-14	-71	-14	-12	-11	-71	-15	-13	-13	-75	-19	-17	-15	-72	-16	-14	-12	3	4	2	3
40,000	-56.5	-57	-0	2	3	-56	1	3	4	-56	0	1	2	-55	2	3	4	-56	1	2	3	3	3	1	2
30,000	-44.5	-38	6	8	8	-37	7	9	9	-33	12	13	13	-34	10	12	13	-36	9	10	11	2	2	1	2
20,000	-21.2	-11	10	12	13	-10	11	13	14	-6	15	16	16	-7	14	16	16	-9	13	14	15	3	2	1	2
10,000	-4.6	5	10	11	12	6	11	13	14	9	14	14	15	8	13	14	15	7	12	13	14	3	3	1	2
HAVANA TO NEW YORK																									1163 N.MI.
55,000	-56.5	-69	-12	-10	-9	-66	-10	-7	-6	-68	-11	-9	-8	-71	-14	-12	-10	-68	-12	-9	-8	3	3	3	4
40,000	-56.5	-57	-1	2	3	-57	-1	2	3	-56	1	2	3	-55	1	3	4	-56	0	2	4	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-34	11	12	13	-36	8	10	13	-38	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	10	-13	8	10	11	-7	14	15	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	-4.6	0	5	7	9	2	7	9	10	8	12	13	14	6	10	12	13	4	9	10	11	4	3	2	3
HAVANA TO PANAMA																									854 N.MI.
55,000	-56.5	-77	-20	-19	-18	-76	-19	-17	-17	-73	-16	-15	-14	-78	-21	-19	-18	-76	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	2	4	5	-53	3	5	5	-56	1	2	2	-54	3	4	4	-54	2	4	5	2	2	2	2
30,000	-44.5	-35	10	11	12	-33	11	13	13	-33	12	13	13	-32	13	14	14	-33	11	13	13	2	2	1	2
20,000	-21.2	-7	14	15	16	-6	15	16	17	-7	15	15	16	-6	16	16	17	-6	15	16	16	2	2	1	1
10,000	-4.6	8	12	14	14	8	13	14	15	9	14	15	15	10	14	15	16	9	13	14	15	2	2	1	1
HAVANA TO PARIS																									4176 N.MI.
55,000	-56.5	-62	-6	-3	-2	-59	-3	-1	1	-59	-3	-0	1	-63	-7	-4	-2	-61	-4	-2	-0	4	3	3	4
40,000	-56.5	-57	-1	3	5	-57	-0	3	5	-55	2	4	6	-55	1	4	6	-56	1	3	5	5	5	4	4
30,000	-44.5	-45	-1	2	3	-44	1	3	4	-37	7	9	11	-40	4	7	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-20	1	5	7	-18	3	6	8	-11	11	12	13	-14	7	10	12	-16	6	9	10	5	4	3	4
10,000	-4.6	-5	-0	3	5	-2	2	5	6	4	9	11	12	1	6	8	10	-0	4	7	8	5	4	2	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
HAVANA TO QUITO																									3608 N.MI.
53,000	-56.5	-77	-21	-19	-18	-76	-20	-18	-17	-73	-17	-15	-15	-78	-21	-19	-18	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	2	4	5	-53	4	5	6	-55	1	2	3	-54	2	4	4	-54	2	4	5	2	2	2	2
30,000	-44.5	-34	11	12	12	-32	12	14	14	-33	12	13	14	-31	13	14	15	-32	12	13	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-5	16	17	18	-7	14	15	16	-6	16	16	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	13	15	16	9	14	15	15	10	15	15	16	9	14	15	15	2	2	1	1
HAVANA TO RIO DE JANEIRO																									3575 N.MI.
53,000	-56.5	-77	-21	-19	-17	-76	-20	-18	-17	-72	-15	-13	-12	-75	-18	-16	-15	-75	-18	-16	-14	3	3	3	3
40,000	-56.5	-53	3	5	6	-52	4	6	7	-54	2	4	5	-54	3	4	5	-53	3	5	6	3	3	2	2
30,000	-44.5	-33	12	13	14	-31	13	15	15	-33	12	13	14	-31	13	15	15	-32	12	34	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	16	17	18	-8	13	14	15	-6	15	16	17	-6	15	36	17	2	2	2	2
10,000	- 4.6	9	14	15	16	9	14	15	16	8	13	14	14	10	14	15	16	9	14	15	16	2	2	2	2
HAVANA TO SAN FRANCISCO																									2228 N.MI.
53,000	-56.5	-68	-11	-9	-8	-66	-10	-7	-6	-69	-13	-11	-10	-71	-15	-13	-11	-69	-12	-9	-8	3	3	2	3
40,000	-56.5	-57	-0	3	5	-57	-1	2	3	-55	2	3	4	-55	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-42	2	4	5	-41	4	5	6	-33	11	12	13	-37	8	10	11	-38	6	8	10	3	2	2	3
20,000	-21.2	-15	6	9	10	-13	8	10	11	-6	15	16	16	-9	12	14	15	-11	10	12	13	4	3	1	3
10,000	- 4.6	1	6	9	10	4	9	12	13	11	16	17	17	7	11	14	15	6	11	13	14	4	4	2	3
HAVANA TO SAN JUAN																									960 N.MI.
53,000	-56.5	-76	-19	-17	-16	-75	-18	-16	-15	-72	-15	-14	-13	-76	-20	-18	-17	-75	-18	-16	-15	3	3	2	3
40,000	-56.5	-54	2	4	4	-55	2	3	4	-56	0	1	2	-54	2	4	4	-55	2	3	4	2	2	1	2
30,000	-44.5	-36	8	10	10	-35	10	11	12	-33	11	12	17	-32	12	13	14	-34	10	12	13	2	2	1	2
20,000	-21.2	-8	13	14	15	-8	14	15	16	-7	14	15	16	-6	15	16	17	-7	14	15	16	2	2	1	1
10,000	- 4.6	7	11	13	14	7	12	13	14	9	13	14	14	9	13	14	15	8	13	14	14	2	2	1	1
HAVANA TO SANTA MARIA																									3043 N.MI.
51,000	-56.5	-68	-11	-9	-8	-65	-9	-7	-6	-66	-9	-6	-7	-69	-13	-10	-9	-67	-10	-8	-7	3	3	2	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	3	-56	1	2	3	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-42	3	5	6	-40	4	6	7	-35	9	11	12	-36	8	10	11	-38	6	8	9	3	3	2	3
20,000	-21.7	-16	7	9	10	-13	6	10	11	-8	13	14	15	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	2	6	8	10	2	7	9	10	7	12	13	13	6	11	12	13	4	9	10	11	3	3	2	2
HAVANA TO SANTIAGO																									3456 N.MI.
51,000	-56.5	-75	-19	-17	-16	-75	-18	-16	-15	-70	-14	-12	-11	-73	-16	-14	-13	-73	-17	-14	-13	3	3	3	3
40,000	-56.5	-53	3	5	6	-53	4	6	7	-54	3	4	5	-54	3	4	5	-54	3	5	6	3	3	2	2
30,000	-44.5	-14	11	12	13	-33	12	13	14	-34	10	12	13	-33	12	13	14	-33	11	13	14	2	2	2	2
20,00C	-21.7	-6	15	16	17	-7	15	16	17	-10	11	13	13	-7	14	16	16	-7	14	15	16	2	2	2	2
10,000	- 4.6	9	13	15	15	8	13	14	15	7	11	12	13	8	13	14	15	8	13	14	15	2	2	2	2
HAVANA TO TORONTO																									1248 N.MI.
53,000	-56.5	-67	-11	-9	-6	-65	-8	-6	-5	-67	-10	-8	-7	-70	-13	-11	-9	-67	-11	-8	-6	3	3	3	4
40,000	-56.5	-57	-1	2	3	-57	-0	2	4	-55	1	3	3	-55	1	3	5	-56	0	3	4	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	4	5	6	-34	10	12	13	-37	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-16	5	8	9	-14	7	9	11	-8	13	15	15	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-1	3	6	7	1	6	8	10	7	12	13	14	5	10	12	13	3	8	10	11	4	4	2	3
HELSINKI TO ISTANBUL																									1170 N.MI.
53,000	-56.5	-56	0	4	5	-54	3	5	7	-50	6	8	10	-57	-1	2	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	3	-55	2	5	7	-49	7	10	12	-56	1	4	5	-55	2	6	8	5	5	4	4
30,000	-44.5	-53	-8	-6	-4	-48	-4	-1	1	-39	5	8	9	-44	0	3	4	-46	-2	2	5	4	4	4	4
20,000	-21.2	-26	-7	-4	-2	-23	-2	2	4	-13	6	10	11	-19	2	6	7	-21	0	4	6	5	5	3	5
10,000	- 4.6	-14	-9	-6	-4	-7	-2	1	3	1	6	8	9	-4	1	4	5	-6	-1	2	4	6	5	3	5
HELSINKI TO KEFLAVIK																									1319 N.MI.
53,000	-56.5	-59	-2	1	3	-50	6	9	11	-45	11	13	14	-54	2	5	6	-52	4	8	10	5	4	3	4
40,000	-56.5	-58	-2	2	5	-51	6	10	13	-48	9	12	14	-54	3	7	9	-53	4	8	11	6	6	5	6
30,000	-44.5	-54	-10	-7	-5	-50	-5	-2	-1	-44	1	3	5	-48	-1	-0	2	-49	-4	-1	1	4	4	4	5
20,000	-21.2	-32	-10	-7	-5	-28	-7	-4	-2	-19	3	5	7	-24	-2	2	4	-26	-4	-0	2	6	5	4	6
10,000	- 4.6	-15	-11	-7	-5	-12	-8	-4	-3	-3	2	4	5	-8	-4	-0	2	-10	-5	-1	0	5	5	3	5
HELSINKI TO LISBON																									1816 N.MI.
53,000	-56.5	-58	-1	2	4	-54	2	5	6	-52	5	7	6	-58	-2	1	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-59	-2	2	4	-56	1	5	7	-57	5	8	10	-56	0	4	5	-55	1	5	7	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	1	-40	4	7	8	-44	1	3	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-27	-1	2	3	-14	7	10	11	-18	3	6	8	-20	1	5	7	5	5	3	5
10,000	- 4.6	-10	-6	-2	0	-6	-1	2	3	2	7	9	10	-3	2	5	6	-4	0	4	6	5	4	3	4
HELSINKI TO LONDON																									997 N.MI.
53,000	-56.5	-58	-1	2	4	-55	4	6	8	-48	9	11	12	-56	0	3	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	2	4	-54	3	7	9	-50	7	10	12	-56	1	4	6	-55	2	7	9	6	6	5	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-42	3	5	7	-46	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-25	-4	-0	2	-16	6	8	9	-20	1	4	6	-23	-1	3	5	6	5	4	5
10,000	- 4.6	-14	-9	-5	-3	-9	-4	-1	1	-0	4	7	8	-6	-1	2	4	-7	-2	1	3	6	5	3	5
HELSINKI TO MADRID																									1591 N.MI.
53,000	-56.5	-57	-1	2	4	-54	2	5	7	-51	5	8	9	-58	-1	1	3	-55	1	5	6	5	4	3	4
40,000	-56.5	-59	-2	2	4	-56	1	5	7	-51	5	8	10	-56	0	4	5	-55	1	5	7	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-4	-1	1	-40	4	7	8	-44	0	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-23	-2	2	3	-14	7	10	11	-18	3	6	8	-21	1	4	6	6	5	3	5
10,000	- 4.6	-11	-6	-3	-1	-7	-2	1	3	2	7	9	10	-3	1	4	6	-5	-0	3	5	6	4	3	5
HELSINKI TO NEW YORK																									3566 N.MI.
53,000	-56.5	-57	-1	2	4	-51	5	8	10	-49	8	10	11	-55	2	5	6	-53	4	7	8	5	4	3	4
40,000	-56.5	-55	1	5	8	-51	5	10	12	-49	7	10	12	-53	4	8	10	-52	4	8	10	6	6	5	6
30,000	-44.5	-52	-8	-5	-3	-49	-4	-2	-0	-43	2	5	6	-46	-2	1	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-31	-10	-6	-4	-27	-6	-2	-0	-17	4	7	9	-23	-1	2	5	-25	-3	1	3	6	6	4	6
10,000	- 4.6	-17	-12	-8	-6	-12	-7	-4	-2	-2	3	5	6	-8	-3	1	3	-10	-5	-1	1	6	5	3	5
HELSINKI TO OSLO																									428 N.MI.
53,000	-56.5	-58	-2	1	3	-52	4	7	9	-46	10	12	13	-55	1	4	5	-53	4	7	9	5	4	3	4
40,000	-56.5	-60	-3	1	3	-53	4	8	10	-49	8	11	13	-55	1	5	7	-54	2	7	9	5	6	5	5
30,000	-44.5	-54	-9	-6	-5	-50	-6	-3	-2	-42	2	5	6	-47	-2	0	2	-48	-4	0	2	4	4	4	4
20,000	-21.2	-32	-10	-6	-4	-27	-5	-2	0	-17	5	7	9	-22	-1	3	5	-24	-3	3	3	6	5	4	6
10,000	- 4.6	-16	-12	-8	-5	-11	-6	-3	-1	-1	3	6	7	-7	-2	1	3	-9	-4	-0	2	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY				APRIL				JULY				OCTOBER				ANNUAL				STANDARD DEVIATION			
		50	*050	075	085	50	050	075	085	50	050	075	085	50	050	075	085	50	050	075	085	JAN	APR	JUL	OCT
HELSINKI TO PARIS																									1028 N.MI.
55,000	-56.5	-57	-1	3	4	-53	4	6	8	-48	8	10	12	-57	-0	2	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	2	6	9	-50	6	10	12	-56	1	4	6	-55	2	6	9	6	6	5	5
30,000	-44.5	-52	-8	-5	-3	-49	-5	-2	-1	-41	3	6	7	-45	-1	2	4	-47	-2	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-24	-3	0	2	-15	6	8	10	-20	1	5	7	-22	-1	3	5	6	5	3	5
10,000	- 4.6	-13	-9	-5	-3	-8	-4	-1	1	0	5	7	8	-5	-1	3	4	-7	-2	2	4	6	5	3	5
HELSINKI TO PRAGUE																									712 N.MI.
55,000	-56.5	-57	-0	3	5	-53	4	6	8	-48	9	11	12	-56	0	3	4	-53	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	2	6	8	-50	6	10	11	-56	1	4	6	-55	2	6	8	5	6	5	5
30,000	-44.5	-55	-8	-6	-4	-50	-5	-2	-1	-41	3	6	7	-45	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-30	-9	-5	-3	-25	-4	-0	2	-15	6	8	10	-20	1	5	6	-23	-1	3	5	6	5	3	5
10,000	- 4.6	-15	-10	-6	-4	-9	-5	-1	1	0	5	7	8	-6	-1	2	4	-7	-3	1	3	6	5	3	5
HELSINKI TO ROME																									1200 N.MI.
55,000	-56.5	-56	0	3	5	-54	3	5	7	-50	6	9	10	-57	-1	2	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	3	-55	1	5	7	-51	A	9	11	-56	1	4	5	-55	1	5	7	5	5	5	4
30,000	-44.5	-52	-7	-5	-3	-49	-4	-1	0	-40	4	7	8	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-14	7	10	11	-19	2	6	7	-21	0	4	6	6	5	3	5
10,000	- 4.6	-13	-8	-5	-3	-8	-3	0	2	2	6	8	9	-4	1	4	5	-6	-1	3	5	6	5	3	5
HELSINKI TO SHANNON																									1105 N.MI.
55,000	-56.5	-58	-1	2	4	-52	4	7	8	-47	9	11	13	-56	0	3	5	-53	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	2	4	-55	3	8	10	-49	7	11	13	-56	1	5	7	-54	2	7	10	6	7	6	6
30,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-0	-42	2	5	7	-46	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-25	-4	-0	1	-16	5	8	9	-21	0	4	6	-23	-1	2	4	6	5	4	5
10,000	- 4.6	-13	-8	-5	-3	-9	-4	-1	0	-1	4	6	7	-5	-1	3	4	-7	-2	1	3	5	5	3	5
HELSINKI TO STOCKHOLM																									215 N.MI.
55,000	-56.5	-58	-2	2	3	-52	4	7	8	-46	11	12	13	-55	1	4	5	-55	4	7	9	5	4	3	4
40,000	-56.5	-60	-3	0	2	-55	3	8	10	-49	7	11	13	-55	2	5	7	-54	2	7	9	5	6	5	5
30,000	-44.5	-54	-9	-7	-5	-50	-6	-3	-2	-42	2	5	7	-47	-2	1	2	-48	-4	0	2	4	4	4	4
20,000	-21.2	-32	-11	-7	-4	-27	-5	-2	0	-16	5	7	9	-22	-1	3	5	-24	-3	1	3	6	6	4	6
10,000	- 4.6	-17	-12	-8	-6	-11	-7	-3	-1	-1	4	6	7	-7	-2	1	3	-9	-4	-0	2	6	6	3	5
HELSINKI TO TEHRAN																									1792 N.MI.
51,000	-56.5	-57	-0	3	5	-54	2	5	6	-52	4	6	8	-57	-0	2	4	-55	2	4	6	5	4	3	4
40,000	-56.5	-58	-1	2	4	-54	2	5	7	-48	8	11	13	-55	2	4	6	-54	3	7	9	5	5	4	4
30,000	-44.5	-52	-7	-5	-3	-46	-2	1	3	-36	8	11	13	-44	1	4	5	-44	0	4	7	4	4	4	4
20,000	-21.2	-28	-6	-3	-1	-21	0	4	6	-11	10	15	14	-19	3	6	8	-20	2	A	8	5	5	3	5
10,000	- 4.6	-13	-8	-4	-2	-5	-1	3	5	4	9	11	12	-5	2	5	7	-4	0	4	6	6	5	3	5
HELSINKI TO VIENNA																									788 N.MI.
55,000	-56.5	-56	0	3	5	-53	4	6	7	-48	8	11	12	-56	0	3	4	-53	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	2	6	8	-50	6	9	11	-56	1	4	6	-55	2	A	8	5	6	5	5
30,000	-44.5	-53	-8	-6	-4	-49	-5	-2	-1	-41	3	6	8	-45	-1	2	4	-47	-3	1	3	4	4	4	4
20,000	-21.2	-30	-8	-5	-2	-25	-3	0	2	-15	6	9	10	-20	1	5	7	-22	-1	3	5	6	5	3	5
10,000	- 4.6	-15	-10	-6	-4	-9	-4	-1	1	0	5	7	8	-5	-1	3	4	-7	-3	1	3	6	5	3	5
HELSINKI TO WARSAW																									507 N.MI.
51,000	-56.5	-57	-0	3	5	-53	4	6	8	-47	9	11	13	-56	1	3	5	-55	3	7	8	5	4	3	4
40,000	-56.5	-59	-3	1	3	-54	2	6	8	-50	7	10	12	-55	1	4	6	-55	2	6	8	5	6	5	5
30,000	-44.5	-55	-9	-6	-5	-50	-5	-2	-1	-41	3	6	7	-46	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-30	-9	-5	-3	-25	-4	-0	2	-15	6	8	10	-21	1	4	6	-23	-2	2	4	6	5	3	5
10,000	- 4.6	-16	-11	-7	-5	-10	-5	-1	0	-0	4	6	8	-6	-2	2	4	-8	-3	0	2	6	5	3	5
HELSINKI TO ZURICH																									960 N.MI.
51,000	-56.5	-57	-0	3	5	-55	3	6	7	-48	8	10	11	-57	-0	2	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-55	2	6	8	-51	6	9	11	-56	1	4	6	-55	2	6	8	5	6	5	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-41	3	6	7	-45	-0	2	4	-47	-2	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-24	-3	0	2	-15	A	9	10	-20	2	5	7	-22	-1	3	5	A	5	3	5
10,000	- 4.6	-16	-9	-5	-3	-8	-4	-1	1	1	5	7	8	-5	-0	3	5	-7	-2	2	4	A	5	3	5
HONG KONG TO KARACHI																									2578 N.MI.
55,000	-56.5	-72	-16	-13	-12	-70	-13	-11	-9	-74	-18	-14	-11	-72	-15	-13	-11	-72	-15	-12	-11	4	4	5	4
40,000	-56.5	-54	2	5	6	-53	4	7	8	-49	7	10	12	-54	3	6	7	-52	4	7	9	4	4	4	4
30,000	-44.5	-36	8	11	12	-34	10	13	14	-27	18	20	21	-32	12	15	1A	-32	12	15	17	4	4	3	3
20,000	-21.2	-12	10	12	13	-8	13	15	16	-5	19	20	21	-6	15	17	18	-7	14	16	18	5	3	2	3
10,000	- 4.6	3	8	10	11	8	13	15	16	13	17	19	19	8	12	14	15	8	13	15	16	5	3	2	2
HONG KONG TO KUALA LUMPUR																									1363 N.MI.
55,000	-56.5	-80	-23	-21	-20	-79	-22	-20	-19	-77	-21	-19	-17	-78	-21	-19	-18	-78	-22	-19	-18	3	3	4	3
40,000	-56.5	-55	2	3	4	-52	5	6	7	-54	3	4	5	-54	2	4	5	-55	3	5	6	2	2	2	2
30,000	-44.5	-31	11	14	15	-30	15	16	17	-30	15	16	16	-31	14	15	16	-30	14	15	16	2	2	1	2
20,000	-21.2	-6	15	17	17	-4	17	18	19	-4	17	17	18	-6	16	17	17	-5	16	17	18	2	2	1	2
10,000	- 4.6	8	15	14	15	10	15	16	16	10	15	16	16	9	14	15	15	9	14	15	15	2	2	1	1
HONG KONG TO LONDON																									5204 N.MI.
55,000	-56.5	-58	-1	2	4	-55	2	4	6	-53	4	6	8	-57	-1	2	1	-56	1	4	6	5	4	4	4
40,000	-56.5	-57	-0	3	5	-53	4	8	10	-48	8	11	13	-53	3	6	8	-53	4	8	10	5	5	5	5
30,000	-44.5	-50	-5	-3	-1	-45	-1	2	4	-35	10	13	14	-45	2	5	6	-45	1	6	8	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-21	0	4	6	-11	11	13	14	-19	1	6	8	-19	2	6	8	5	5	3	5
10,000	- 4.6	-12	-8	-4	-2	-5	-1	2	4	4	9	11	12	-4	1	4	6	-4	0	4	6	5	5	3	5
HONG KONG TO MANILA																									608 N.MI.
51,000	-56.5	-77	-21	-18	-17	-77	-21	-19	-17	-76	-19	-17	-15	-74	-18	-16	-14	-76	-20	-17	-16	3	4	4	3
40,000	-56.5	-54	3	4	5	-52	5	6	7	-53	4	6	7	-53	3	5	6	-55	4	6	6	2	2	2	3
30,000	-44.5	-31	15	15	16	-31	14	15	16	-30	15	16	17	-30	14	16	16	-30	14	15	16	2	2	2	2
20,000	-21.2	-7	14	16	16	-5	16	17	18	-4	17	18	19	-6	16	17	17	-5	16	17	18	2	2	1	2
10,000	- 4.6	8	12	14	14	10	14	16	16	11	16	16	17	10	14	15	16	10	14	15	16	2	2	1	2
HONG KONG TO NANKING																									636 N.MI.
55,000	-56.5	-69	-13	-9	-7	-70	-13	-11	-9	-70	-13	-10	-9	-68	-12	-9	-7	-69	-13	-10	-8	5	4	5	5
40,000	-56.5	-52	4	6	8	-53	4	6	8	-49	7	10	11	-52	4	7	8	-52	5	8	9	3	4	3	4
30,000	-44.5	-36	9	11	13	-34	10	12	15	-28	17	19	20	-31	13	16	17	-32	12	15	17	3	3	3	3
20,000	-21.2	-13	8	10	11	-9	12	14	15	-4	18	19	20	-8	13	15	16	-9	13	15	16	3	3	2	3
10,000	- 4.6	-1	4	6	8	4	9	11	12	11	16	17	18	6	11	12	13	5	10	12	14	4	3	2	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																				STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
HONG KONG TO NEW DELHI																									2055 N.MI.
55,000	-56.5	-71	-14	-12	-10	-69	-12	-10	-8	-73	-16	-13	-12	-70	-13	-11	-9	-71	-14	-11	-9	4	4	4	4
40,000	-56.5	-54	2	5	6	-53	4	6	8	-49	7	10	11	-53	3	6	7	-52	4	7	9	4	4	4	4
30,000	-44.5	-37	7	10	12	-35	9	12	13	-27	18	20	21	-33	12	14	15	-33	12	15	16	4	4	3	3
20,000	-21.2	-13	8	11	12	-9	12	14	15	-2	19	20	21	-7	14	16	17	-8	13	16	17	3	3	2	3
10,000	- 4.6	2	7	9	10	7	12	14	15	12	17	18	18	7	11	13	14	7	12	14	15	3	3	2	3
HONG KONG TO OKINAWA																									779 N.MI.
55,000	-56.5	-72	-16	-13	-11	-73	-16	-13	-12	-72	-15	-12	-11	-70	-14	-11	-9	-72	-15	-12	-10	5	4	4	4
40,000	-56.5	-52	4	6	7	-53	4	6	7	-50	6	9	10	-52	4	6	8	-52	5	7	9	3	3	3	3
30,000	-44.5	-32	12	14	15	-33	12	14	15	-29	16	18	19	-30	15	16	17	-31	14	16	17	3	3	3	3
20,000	-21.2	-10	11	13	14	-7	14	16	17	-4	17	18	19	-6	15	17	18	-7	14	16	17	3	3	2	3
10,000	- 4.6	3	8	9	11	7	12	13	14	11	16	17	18	8	13	14	15	7	12	14	15	3	2	2	2
HONG KONG TO OSAKA																									1341 N.MI.
55,000	-56.5	-67	-10	-7	-5	-68	-12	-8	-7	-68	-12	-9	-7	-67	-10	-7	-5	-68	-11	-7	-5	5	5	5	5
40,000	-56.5	-51	5	8	9	-53	3	6	8	-49	8	10	11	-52	5	7	8	-51	5	8	10	4	4	4	4
30,000	-44.5	-36	8	11	12	-35	9	12	13	-28	17	19	20	-31	14	16	17	-32	12	15	17	4	4	3	3
20,000	-21.2	-15	6	9	10	-10	11	13	15	-4	17	19	20	-8	13	15	16	-9	12	15	16	3	3	2	3
10,000	- 4.6	-2	2	5	6	3	8	10	11	11	16	17	18	6	11	13	14	4	9	12	13	4	3	2	3
HONG KONG TO RANGOON																									1071 N.MI.
55,000	-56.5	-76	-20	-17	-16	-75	-19	-16	-15	-76	-20	-17	-16	-74	-18	-15	-14	-75	-19	-16	-15	3	4	4	4
40,000	-56.5	-55	2	4	5	-52	5	6	7	-52	5	6	7	-54	3	5	6	-53	3	5	7	3	2	3	3
30,000	-44.5	-33	12	14	14	-31	14	16	17	-28	16	17	18	-30	14	16	17	-31	14	16	16	3	3	2	2
20,000	-21.2	-8	14	15	16	-5	16	17	18	-4	17	18	19	-6	15	17	18	-6	16	17	18	2	2	1	2
10,000	- 4.6	6	11	13	14	10	14	16	16	11	16	17	17	9	13	14	15	9	14	15	16	3	2	1	2
HONG KONG TO SAIGON																									816 N.MI.
55,000	-54.5	-78	-22	-20	-18	-78	-21	-19	-18	-77	-20	-18	-16	-76	-20	-17	-16	-77	-21	-18	-17	3	3	4	3
40,000	-56.5	-54	2	4	5	-52	5	6	7	-53	3	5	6	-54	3	4	5	-53	3	5	6	2	2	2	2
30,000	-44.5	-31	13	14	15	-30	14	16	17	-30	15	16	16	-30	14	16	16	-30	14	15	16	2	2	2	2
20,000	-21.2	-6	15	16	17	-4	17	18	19	-4	17	18	18	-6	16	17	17	-5	16	17	18	2	2	1	2
10,000	- 4.6	8	12	14	14	10	15	16	16	11	15	16	16	9	14	15	15	9	14	15	15	2	2	1	2
HONG KONG TO SHANGHAI																									662 N.MI.
55,000	-56.5	-70	-13	-10	-8	-70	-14	-11	-9	-70	-14	-11	-9	-69	-12	-9	-7	-70	-13	-10	-8	5	4	5	5
40,000	-56.5	-52	4	7	8	-53	4	6	8	-49	7	10	11	-52	4	7	8	-52	5	8	9	3	4	3	3
30,000	-44.5	-35	10	12	13	-34	10	13	14	-28	17	19	20	-31	14	16	17	-32	13	16	17	3	3	3	3
20,000	-21.2	-13	9	11	12	-9	12	14	15	-4	18	19	20	-8	13	15	17	-8	13	15	17	3	3	2	3
10,000	- 4.6	-0	4	7	8	5	9	11	12	11	16	17	18	6	11	13	14	6	10	13	14	3	3	2	2
HONG KONG TO SINGAPORE																									1392 N.MI.
55,000	-56.5	-80	-23	-21	-20	-79	-22	-20	-19	-78	-21	-19	-17	-78	-22	-19	-18	-79	-22	-20	-18	3	3	3	3
40,000	-56.5	-55	2	3	4	-52	5	6	7	-54	3	4	5	-54	2	4	5	-53	3	5	6	2	2	2	2
30,000	-44.5	-31	13	15	15	-30	15	16	16	-30	14	15	16	-31	14	15	16	-30	14	15	16	2	2	1	2
20,000	-21.2	-6	16	17	17	-4	17	18	19	-5	17	17	18	-6	16	17	17	-5	16	17	18	2	2	1	2
10,000	- 4.6	8	13	14	15	10	15	16	16	10	15	15	16	9	14	15	15	10	14	15	15	2	1	1	1
HONG KONG TO SYDNEY																									3982 N.MI.
55,000	-56.5	-79	-22	-20	-19	-77	-21	-18	-17	-75	-18	-16	-15	-75	-19	-17	-16	-77	-20	-18	-16	3	3	3	3
40,000	-56.5	-54	3	4	5	-53	4	6	7	-54	3	4	5	-54	3	4	5	-53	3	5	6	2	3	2	3
30,000	-44.5	-32	13	14	15	-33	12	13	14	-33	11	13	13	-33	11	13	13	-33	12	13	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-7	14	16	16	-8	13	14	15	-8	13	15	15	-7	14	15	16	2	2	2	2
10,000	- 4.6	9	14	15	15	8	13	14	15	7	12	13	14	8	12	14	14	8	13	14	15	2	2	2	2
HONG KONG TO TAIPEI																									435 N.MI.
55,000	-56.5	-73	-17	-14	-12	-74	-17	-14	-13	-73	-16	-13	-12	-71	-14	-12	-10	-72	-16	-13	-11	4	4	4	4
40,000	-56.5	-52	4	6	7	-52	4	6	7	-50	6	8	9	-52	4	6	7	-52	5	7	8	3	3	3	3
30,000	-44.5	-32	12	14	15	-32	12	14	15	-28	16	18	19	-30	15	16	17	-31	14	16	17	3	3	3	2
20,000	-21.2	-9	12	14	15	-7	14	16	17	-4	17	18	19	-6	15	17	18	-7	15	16	17	3	2	2	2
10,000	- 4.6	4	8	10	11	8	12	14	14	11	16	17	17	8	13	14	15	8	12	14	15	3	2	2	2
HONG KONG TO TOKYO																									1552 N.MI.
55,000	-56.5	-66	-9	-6	-4	-67	-11	-8	-6	-68	-11	-8	-6	-67	-10	-7	-5	-67	-10	-7	-5	5	5	5	5
40,000	-56.5	-51	6	8	10	-53	3	6	8	-49	8	10	11	-52	5	7	8	-51	5	8	10	4	4	4	4
30,000	-44.5	-36	8	11	12	-35	9	12	13	-28	17	19	20	-31	14	16	17	-33	12	15	17	4	4	3	3
20,000	-21.2	-15	6	8	9	-10	11	13	14	-4	17	19	20	-8	13	15	16	-9	12	14	16	3	3	2	3
10,000	- 4.6	-3	2	4	6	3	8	10	11	11	16	17	18	6	11	13	14	4	9	12	13	4	3	2	3
HONOLULU TO JOHNSTON IS.																									712 N.MI.
55,000	-56.5	-74	-17	-15	-14	-71	-14	-12	-11	-73	-17	-15	-14	-73	-14	-14	-13	-73	-16	-14	-12	4	3	3	3
40,000	-56.5	-53	3	6	7	-55	1	4	5	-54	2	4	4	-54	3	4	5	-54	2	5	6	4	4	2	2
30,000	-44.5	-36	9	11	12	-36	9	11	12	-34	11	12	13	-34	11	12	13	-35	10	12	13	3	3	2	2
20,000	-21.2	-9	12	14	15	-9	12	14	14	-6	15	17	17	-6	15	17	17	-8	14	15	16	3	2	2	2
10,000	- 4.6	7	12	13	14	7	11	13	14	9	14	15	16	9	14	15	16	8	13	14	15	2	2	2	2
HONOLULU TO LONDON																									6274 N.MI.
55,000	-56.5	-59	-2	1	3	-51	5	8	10	-49	7	9	10	-56	1	3	4	-54	3	6	7	5	4	3	4
40,000	-56.5	-56	1	5	7	-51	5	9	11	-49	8	11	12	-52	4	7	9	-52	4	8	10	6	5	4	4
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-43	2	4	6	-47	-2	0	2	-47	-3	1	2	4	4	4	4
20,000	-21.2	-29	-8	-5	-3	-28	-6	-3	-1	-17	4	7	8	-24	-3	1	2	-24	-3	1	3	5	5	4	5
10,000	- 4.6	-14	-10	-6	-4	-12	-8	-5	-3	-2	3	5	6	-9	-4	-1	0	-9	-5	-1	1	5	5	3	4
HONOLULU TO LOS ANGELES																									2217 N.MI.
55,000	-56.5	-68	-11	-9	-7	-65	-8	-6	-4	-68	-12	-10	-9	-70	-13	-11	-10	-67	-11	-8	-6	4	4	3	3
40,000	-56.5	-55	1	5	7	-57	-0	3	4	-54	2	4	5	-55	2	4	5	-55	1	3	4	5	4	2	3
30,000	-44.5	-40	4	7	8	-40	5	7	8	-35	9	11	12	-37	8	9	10	-38	6	9	10	4	3	2	3
20,000	-21.2	-14	8	10	11	-13	8	10	12	-7	14	15	16	-9	12	14	15	-11	10	13	14	4	3	2	3
10,000	- 4.6	5	8	10	12	3	8	10	11	9	14	15	16	6	11	13	14	5	10	12	13	4	3	2	3
HONOLULU TO MANILA																									4597 N.MI.
55,000	-56.5	-74	-17	-15	-13	-70	-14	-11	-10	-72	-15	-13	-11	-72	-16	-13	-12	-72	-15	-13	-11	4	4	4	3
40,000	-56.5	-52	5	7	8	-54	2	5	6	-54	3	5	6	-53	3	5	6	-53	3	6	7	3	4	3	3
30,000	-44.5	-32	12	14	15	-34	10	12	13	-32	13	14	15	-32	13	14	15	-33	12	14	15	3	3	3	3
20,000	-21.2	-8	13	14	15	-7	14	16	16	-5	16	17	18	-6	15	17	18	-7	14	16	17	3	3	2	2
10,000	- 4.6	6	11	13	14	8	12	14	15	10	15	16	16	10	14	15	16	8	13	14	15	2	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	D50*	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
HONOLULU TO MELBOURNE																									4789 N.MI.
55,000	-56.5	-76	-19	-18	-17	-75	-18	-16	-15	-73	-16	-14	-15	-75	-16	-14	-15	-74	-18	-15	-14	3	3	3	3
40,000	-56.5	-54	3	5	6	-54	3	5	6	-54	2	4	5	-54	2	4	5	-54	3	4	5	3	3	2	3
30,000	-44.5	-35	11	13	14	-35	10	11	12	-36	9	10	11	-35	9	11	12	-35	10	12	13	3	2	2	2
20,000	-21.2	-7	14	16	17	-9	12	14	14	-10	11	13	14	-9	12	14	14	-9	13	14	15	2	2	2	2
10,000	-4.6	9	13	14	15	7	12	13	14	6	10	12	12	7	11	13	14	7	12	13	14	2	2	2	2
HONOLULU TO MEXICO CITY																									5292 N.MI.
55,000	-56.5	-73	-17	-14	-13	-71	-14	-12	-11	-73	-16	-14	-14	-74	-18	-16	-15	-73	-16	-14	-12	3	3	2	3
40,000	-56.5	-55	2	5	6	-56	0	3	4	-55	2	3	4	-54	2	4	5	-55	2	3	4	4	4	2	2
30,000	-44.5	-38	7	9	10	-37	7	9	10	-34	11	12	13	-55	10	11	12	-36	9	10	11	3	2	2	2
20,000	-21.2	-11	10	12	13	-10	11	13	14	-6	15	16	16	-7	14	15	16	-9	13	14	15	3	3	2	2
10,000	-4.6	6	11	13	14	7	12	14	14	9	14	15	16	9	13	15	15	8	13	14	15	3	3	2	2
HONOLULU TO HANOI																									2755 N.MI.
55,000	-56.5	-79	-23	-21	-20	-78	-21	-19	-18	-77	-20	-18	-17	-77	-20	-19	-18	-78	-21	-19	-18	2	3	3	3
40,000	-56.5	-54	3	5	5	-54	3	4	5	-55	2	3	4	-54	2	4	4	-54	3	4	5	2	3	2	2
30,000	-44.5	-32	12	14	14	-33	12	13	14	-33	12	13	14	-32	12	13	14	-33	12	13	14	2	2	2	2
20,000	-21.2	-6	16	17	18	-7	14	16	16	-6	15	16	17	-6	15	16	17	-6	15	16	17	2	2	2	2
10,000	-4.6	10	14	15	16	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	16	2	2	2	2
HONOLULU TO NEW YORK																									4320 N.MI.
55,000	-56.5	-63	-7	-4	-2	-61	-4	-2	-0	-64	-7	-5	-4	-65	-9	-7	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-56	1	5	7	-57	-1	3	5	-54	2	4	5	-55	1	4	5	-56	1	3	4	6	5	3	4
30,000	-44.5	-45	-0	2	4	-43	1	3	4	-36	9	10	11	-40	5	7	8	-41	4	6	8	4	5	3	3
20,000	-21.2	-19	2	5	7	-17	4	7	8	-8	13	14	15	-12	9	11	13	-14	7	10	11	5	4	2	4
10,000	-4.6	-4	1	4	6	-1	4	7	8	9	13	15	16	3	8	11	12	2	6	10	11	5	4	2	4
HONOLULU TO PERTH																									5878 N.MI.
55,000	-56.5	-77	-21	-19	-18	-76	-19	-17	-16	-75	-18	-16	-15	-75	-18	-16	-15	-74	-19	-17	-16	3	3	3	3
40,000	-56.5	-55	3	5	6	-54	3	5	6	-54	2	4	5	-54	3	4	5	-54	3	5	6	3	3	2	3
30,000	-44.5	-35	12	14	15	-34	11	12	13	-34	10	12	13	-34	11	12	13	-34	11	13	14	2	2	2	2
20,000	-21.2	-6	15	17	17	-8	13	15	15	-9	13	14	15	-8	13	15	15	-8	14	15	14	2	2	2	2
10,000	-4.6	9	14	15	16	8	12	14	14	7	11	13	14	8	13	14	15	8	13	14	15	2	2	2	2
HONOLULU TO PORTLAND																									2259 N.MI.
55,000	-56.5	-64	-8	-5	-5	-60	-4	-1	0	-62	-6	-4	-3	-65	-9	-6	-5	-63	-7	-3	-2	4	4	3	4
40,000	-56.5	-55	2	6	8	-57	-0	3	5	-54	3	5	6	-55	2	4	4	-55	2	4	5	6	5	3	4
30,000	-44.5	-47	2	5	6	-42	3	5	6	-37	8	10	11	-39	6	8	9	-40	5	7	9	4	3	3	3
20,000	-21.2	-16	5	8	9	-16	5	8	9	-9	12	14	15	-12	9	12	13	-13	8	11	12	4	4	3	4
10,000	-4.6	-1	4	7	9	-1	4	7	8	7	11	13	14	5	8	10	17	2	7	9	11	4	4	2	4
HONOLULU TO RIO DE JANEIRO																									7190 N.MI.
55,000	-56.5	-78	-21	-19	-18	-76	-20	-18	-17	-75	-16	-14	-15	-74	-18	-16	-15	-75	-19	-16	-15	3	3	3	3
40,000	-56.5	-55	3	5	6	-54	3	5	7	-54	3	4	5	-54	3	4	5	-54	3	5	6	3	3	2	2
30,000	-44.5	-33	11	13	14	-33	11	13	14	-33	11	13	15	-33	12	13	14	-33	11	13	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-7	15	16	16	-8	13	15	15	-6	15	16	17	-7	14	16	17	2	2	2	2
10,000	-4.6	9	13	15	15	9	13	14	15	7	12	13	14	9	14	15	16	8	13	14	15	2	2	2	2
HONOLULU TO ROME																									6976 N.MI.
55,000	-56.5	-59	-4	1	3	-52	5	8	9	-49	7	9	10	-56	1	3	4	-54	3	5	7	5	4	3	3
40,000	-56.5	-56	0	4	4	-52	5	8	10	-49	8	11	12	-55	4	6	8	-52	4	8	10	6	5	4	4
30,000	-44.5	-52	-7	-4	-3	-49	-4	-2	-0	-42	2	5	6	-47	-3	-0	1	-47	-3	0	2	4	4	3	4
20,000	-21.2	-29	-8	-5	-3	-28	-6	-3	-2	-17	5	7	8	-24	-3	0	2	-24	-3	1	3	5	5	4	5
10,000	-4.6	-14	-10	-6	-4	-12	-8	-5	-3	-1	3	6	7	-9	-4	-1	0	-9	-5	-1	1	5	5	3	4
HONOLULU TO SAN FRANCISCO																									2081 N.MI.
55,000	-56.5	-67	-10	-7	-6	-65	-7	-4	-1	-66	-10	-8	-7	-68	-12	-9	-8	-66	-9	-6	-5	4	4	3	3
40,000	-56.5	-55	1	5	7	-57	-0	3	4	-54	2	4	5	-55	2	4	5	-55	1	3	4	5	5	2	3
30,000	-44.5	-41	3	6	7	-40	4	6	7	-36	9	11	12	-38	7	9	10	-39	6	8	10	4	3	3	3
20,000	-21.2	-14	7	10	11	-14	7	10	11	-8	14	15	16	-10	11	13	15	-11	10	12	13	4	3	2	3
10,000	-4.6	2	7	9	11	2	6	9	10	8	13	14	15	5	10	12	13	4	9	11	13	4	3	2	3
HONOLULU TO SEATTLE																									2324 N.MI.
55,000	-56.5	-63	-7	-4	-2	-60	-3	-1	1	-62	-5	-3	-2	-65	-8	-6	-4	-62	-4	-3	-1	4	4	3	4
40,000	-56.5	-55	2	6	8	-56	0	4	5	-54	3	5	6	-55	2	4	4	-55	2	4	5	6	5	3	4
30,000	-44.5	-43	2	4	6	-42	3	5	6	-37	7	9	11	-39	5	8	9	-40	4	7	8	4	3	1	3
20,000	-21.2	-17	4	7	9	-17	5	7	9	-9	12	14	15	-13	8	11	13	-14	7	10	12	4	4	3	4
10,000	-4.6	-1	3	6	8	-1	4	6	7	6	11	13	13	5	7	10	11	2	4	9	10	4	4	2	4
HONOLULU TO SYDNEY																									4408 N.MI.
55,000	-56.5	-77	-20	-19	-18	-76	-19	-17	-16	-74	-17	-15	-14	-74	-18	-16	-15	-75	-19	-16	-15	3	3	3	3
40,000	-56.5	-55	3	5	6	-54	3	5	6	-54	2	4	5	-54	2	4	5	-54	3	4	5	3	3	2	3
30,000	-44.5	-35	11	13	14	-34	10	12	11	-35	10	11	12	-34	10	12	13	-34	10	12	13	3	2	2	2
20,000	-21.2	-6	15	16	17	-8	13	14	15	-9	12	14	14	-8	13	14	15	-8	13	15	16	2	2	2	2
10,000	-4.6	9	14	15	15	8	12	14	14	7	11	12	13	8	12	13	14	8	12	14	15	2	2	2	2
HONOLULU TO TAHITI																									2304 N.MI.
55,000	-56.5	-80	-23	-22	-21	-78	-22	-20	-19	-76	-19	-17	-16	-75	-19	-17	-16	-77	-21	-19	-17	3	3	3	1
40,000	-56.5	-54	3	5	6	-54	2	4	5	-54	2	3	4	-54	2	4	4	-54	2	4	5	3	3	2	2
30,000	-44.5	-33	12	13	14	-13	12	13	14	-33	11	13	13	-33	12	13	14	-33	12	13	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-7	14	15	15	-6	15	16	16	-6	15	16	17	-6	15	16	17	2	2	2	2
10,000	-4.6	9	14	15	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	16	1	2	2	2
HONOLULU TO TOKYO																									3361 N.MI.
55,000	-56.5	-63	-7	-4	-3	-61	-5	-2	-0	-64	-7	-5	-3	-66	-9	-7	-5	-64	-7	-4	-2	4	4	4	4
40,000	-56.5	-50	6	10	11	-55	1	4	6	-52	4	7	8	-53	3	5	7	-53	4	7	9	5	5	3	4
30,000	-44.5	-39	5	8	10	-38	7	9	11	-33	12	14	15	-34	10	13	14	-36	9	11	13	4	4	3	3
20,000	-21.2	-16	5	8	9	-12	9	12	13	-7	14	16	17	-9	13	15	16	-11	10	13	14	4	4	2	3
10,000	-4.6	-1	3	6	7	2	7	9	10	8	13	14	15	6	11	12	11	4	8	11	12	4	3	2	3
HONOLULU TO VANCOUVER																									2349 N.MI.
55,000	-56.5	-63	-6	-3	-2	-59	-3	0	2	-61	-4	-2	-1	-64	-8	-5	-4	-62	-5	-2	-0	4	4	3	4
40,000	-56.5	-54	2	6	8	-56	0	4	6	-54	3	5	6	-55	2	5	6	-55	2	4	6	6	5	3	4
30,000	-44.5	-43	1	4	6	-42	2	4	5	-37	7	9	10	-40	5	7	9	-41	4	7	8	4	5	3	3
20,000	-21.2	-17	4	7	8	-17	4	7	8	-10	12	14	15	-13	8	11	12	-14	7	10	11	4	4	3	4
10,000	-4.6	-2	3	6	7	-2	3	6	7	6	10	12	13	2	7	9	10	1	6	8	10	4	4	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
HONOLULU TO WAKE ISLAND																									1995 N.MI.
55,000	-56.5	-75	-16	-14	-15	-69	-12	-10	-9	-72	-15	-13	-12	-72	-16	-14	-15	-71	-15	-12	-11	4	5	5	5
40,000	-56.5	-52	4	7	8	-55	1	4	5	-54	2	4	5	-54	5	4	5	-54	5	5	7	4	4	5	2
30,000	-44.5	-55	10	12	15	-55	9	11	12	-55	11	15	14	-55	12	15	14	-54	11	12	15	4	4	5	2
20,000	-21.2	-9	12	14	15	-9	15	14	15	-6	15	17	17	-6	15	17	18	-7	14	15	16	5	2	2	2
10,000	-4.6	6	11	15	14	7	11	15	14	9	14	15	16	9	14	15	16	8	15	14	15	5	2	2	2
HOUSTON TO KINGSTON																									5252 N.MI.
55,000	-56.5	-74	-18	-16	-15	-72	-16	-14	-15	-72	-15	-14	-15	-76	-20	-17	-16	-74	-17	-15	-14	5	5	2	5
40,000	-56.5	-56	1	2	5	-55	1	5	4	-56	0	1	2	-55	2	5	4	-55	1	5	5	5	2	1	2
30,000	-44.5	-58	7	8	9	-56	8	9	10	-55	12	15	15	-54	11	12	15	-55	9	11	12	2	2	1	2
20,000	-21.2	-10	11	15	14	-9	12	14	15	-6	15	16	16	-7	15	16	16	-8	15	14	15	2	2	1	2
10,000	-4.6	6	10	12	15	7	12	14	14	9	14	15	15	9	15	15	15	8	12	13	14	2	5	1	2
HOUSTON TO LA PAZ																									5182 N.MI.
55,000	-56.5	-77	-20	-18	-17	-76	-19	-17	-16	-75	-16	-15	-14	-76	-20	-18	-17	-75	-19	-17	-15	5	5	5	5
40,000	-56.5	-54	2	4	5	-55	4	5	6	-55	2	5	4	-54	2	4	4	-54	2	4	5	5	5	2	2
30,000	-44.5	-54	11	12	15	-55	12	15	14	-52	12	15	14	-52	15	14	15	-55	12	15	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-6	15	17	17	-7	14	15	15	-6	15	16	17	-6	15	16	17	2	2	1	2
10,000	-4.6	8	15	14	15	9	14	15	16	9	15	15	15	10	14	15	16	9	14	15	15	2	2	2	2
HOUSTON TO LIMA																									2718 N.MI.
55,000	-56.5	-77	-20	-19	-18	-76	-19	-17	-16	-75	-17	-15	-14	-77	-20	-18	-17	-76	-19	-17	-16	5	5	2	5
40,000	-56.5	-54	2	4	5	-55	5	5	6	-55	1	5	5	-54	2	4	4	-54	2	4	5	5	5	2	2
30,000	-44.5	-54	10	12	12	-55	12	15	14	-52	12	15	14	-52	15	14	15	-55	12	15	14	2	2	2	2
20,000	-21.2	-7	15	14	17	-6	15	16	17	-7	14	15	16	-6	15	16	17	-6	15	16	17	2	2	1	2
10,000	-4.6	8	15	14	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	15	2	2	1	2
HOUSTON TO MEXICO CITY																									647 N.MI.
55,000	-56.5	-75	-17	-15	-14	-71	-15	-15	-12	-72	-16	-14	-14	-76	-20	-18	-17	-75	-17	-14	-15	5	5	2	5
40,000	-56.5	-56	0	2	5	-56	0	2	5	-56	1	2	5	-55	2	5	4	-56	1	2	5	5	5	2	2
10,000	-44.5	-58	6	8	8	-58	7	8	9	-52	12	15	14	-54	11	12	15	-55	9	11	12	2	2	1	2
20,000	-21.2	-11	10	12	15	-10	12	15	14	-6	15	16	16	-7	14	15	16	-8	15	14	15	5	2	1	2
10,000	-4.6	8	10	12	15	9	15	15	16	10	15	15	16	9	14	15	16	8	15	14	15	5	5	1	2
HOUSTON TO NASSAU																									987 N.MI.
55,000	-56.5	-72	-16	-14	-15	-70	-15	-11	-10	-71	-14	-15	-12	-75	-18	-16	-15	-72	-15	-15	-12	5	5	2	5
40,000	-56.5	-57	-0	2	5	-56	6	2	5	-56	0	2	2	-55	2	5	4	-56	1	2	5	5	5	2	2
30,000	-44.5	-59	6	7	8	-58	7	8	9	-55	12	15	15	-15	10	12	15	-56	8	10	11	2	2	1	2
20,000	-21.2	-11	10	12	15	-10	11	12	15	-6	15	16	16	-7	14	15	16	-9	12	14	15	5	5	1	2
10,000	-4.6	4	9	11	12	6	11	15	14	9	14	14	15	8	15	14	15	7	12	15	15	5	5	1	2
HOUSTON TO NATAL																									4056 N.MI.
55,000	-56.5	-78	-20	-18	-17	-76	-19	-17	-16	-72	-16	-14	-15	-77	-20	-18	-17	-75	-19	-16	-15	5	5	2	5
40,000	-56.5	-55	2	4	5	-54	5	5	6	-55	1	5	5	-54	5	4	5	-54	2	4	5	5	5	2	2
30,000	-44.5	-55	10	11	12	-55	12	15	14	-51	12	15	14	-52	15	14	15	-55	11	15	14	2	2	2	2
20,000	-21.2	-7	14	15	16	-7	14	16	17	-7	14	15	16	-6	15	16	17	-7	15	16	16	2	2	1	2
10,000	-4.6	8	12	14	14	8	15	14	15	9	14	14	15	9	14	15	16	9	15	15	15	2	2	1	2
HOUSTON TO PANAMA																									1525 N.MI.
55,000	-56.5	-75	-19	-17	-16	-74	-17	-16	-15	-75	-16	-15	-14	-72	-21	-19	-18	-75	-18	-16	-16	5	5	2	5
40,000	-56.5	-55	1	1	4	-54	2	4	5	-56	1	2	2	-54	2	5	4	-55	2	5	4	2	2	2	2
30,000	-44.5	-56	8	10	16	-55	10	11	12	-55	12	15	15	-55	12	15	14	-54	10	12	12	2	2	1	2
20,000	-21.2	-8	15	14	15	-7	14	15	16	-6	15	16	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	-4.6	7	12	15	14	8	15	15	15	9	14	15	15	9	14	15	18	9	15	14	15	2	2	1	2
HOUSTON TO PORT OF SPAIN																									2215 N.MI.
55,000	-56.5	-75	-19	-17	-16	-74	-18	-16	-15	-72	-15	-14	-15	-76	-20	-18	-17	-74	-18	-16	-15	5	5	2	5
40,000	-56.5	-55	1	5	4	-54	2	4	4	-56	1	2	2	-54	2	4	4	-55	2	5	4	5	2	2	2
30,000	-44.5	-56	8	10	10	-15	10	11	12	-51	11	12	15	-51	12	15	14	-14	10	12	15	2	2	2	2
20,000	-21.2	-9	12	14	15	-8	15	15	15	-7	15	15	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	-4.6	7	11	15	15	8	12	14	15	9	14	14	15	9	14	15	15	8	15	14	14	2	2	1	2
HOUSTON TO RIO DE JANEIRO																									4548 N.MI.
55,000	-56.5	-77	-20	-18	-17	-75	-19	-17	-16	-72	-15	-15	-12	-75	-19	-17	-16	-75	-18	-16	-14	5	5	5	5
40,000	-56.5	-54	5	4	5	-55	4	6	7	-54	2	4	4	-54	5	4	5	-54	5	5	6	5	5	2	2
30,000	-44.5	-54	11	12	15	-52	12	14	14	-55	12	15	14	-12	15	14	15	-55	12	15	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-6	15	17	17	-8	15	15	15	-6	15	16	17	-7	15	16	17	2	2	2	2
10,000	-4.6	9	15	15	15	9	14	15	16	8	15	14	15	10	14	15	16	9	15	15	16	2	2	2	2
HOUSTON TO SAN JUAN																									1755 N.MI.
55,000	-56.5	-74	-17	-15	-14	-72	-15	-14	-15	-71	-15	-15	-15	-75	-19	-17	-16	-71	-17	-15	-14	5	5	2	5
40,000	-56.5	-56	1	5	4	-55	1	5	4	-56	0	1	2	-55	2	5	4	-55	1	5	5	5	5	2	2
30,000	-44.5	-58	7	8	9	-56	8	9	10	-55	11	12	15	-54	11	12	15	-55	9	11	11	2	2	1	2
20,000	-21.2	-10	11	15	14	-9	12	14	14	-7	15	16	16	-7	15	16	16	-8	15	14	15	2	2	1	2
10,000	-4.6	6	10	12	15	7	11	15	14	9	14	14	15	8	15	14	15	7	12	15	14	2	5	1	2
HOUSTON SAO PAULO																									4250 N.MI.
55,000	-56.5	-77	-20	-18	-17	-75	-19	-17	-16	-72	-15	-15	-12	-75	-18	-16	-15	-75	-18	-16	-14	5	5	5	5
40,000	-56.5	-54	1	4	5	-55	4	8	7	-54	2	4	4	-54	5	4	5	-54	5	5	6	5	5	2	2
30,000	-44.5	-54	11	12	15	-52	12	14	14	-55	12	15	14	-52	15	14	15	-55	12	15	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-6	15	17	17	-8	15	14	15	-6	15	16	17	-7	15	16	17	2	2	2	2
10,000	-4.6	9	15	15	15	9	14	15	16	8	15	14	14	10	14	15	16	9	15	15	15	2	2	2	2
HYDERABAD TO NEW DELHI																									665 N.MI.
55,000	-56.5	-75	-17	-14	-15	-70	-14	-11	-9	-75	-19	-15	-14	-74	-18	-15	-14	-75	-17	-15	-12	4	4	5	4
40,000	-56.5	-55	1	5	6	-55	5	7	8	-48	8	11	15	-54	5	6	8	-55	4	8	10	5	5	5	5
30,000	-44.5	-57	8	11	15	-55	9	15	14	-27	18	20	21	-52	12	15	16	-55	12	15	17	5	5	5	4
20,000	-21.2	-11	10	12	15	-9	12	15	16	-5	19	20	21	-6	15	17	18	-7	14	17	18	5	4	5	5
10,000	-4.6	5	9	11	12	9	14	16	17	15	17	19	19	8	15	14	15	9	15	15	17	5	5	2	2
ISTANBUL TO JIDDA																									1281 N.MI.
55,000	-56.5	-65	-8	-6	-5	-65	-7	-5	-4	-70	-15	-11	-10	-67	-11	-8	-7	-66	-10	-7	-6	5	5	5	5
40,000	-56.5	-55	2	4	6	-55	1	4	6	-47	9	11	12	-55	1	5	4	-55	5	6	8	4	4	5	5
30,000	-44.5	-65	-0	2	5	-41	4	6	7	-28	16	18	19	-58	7	8	9	-58	7	10	12	5	5	5	5
20,000	-21.2	-18	5	5	6	-15	6	8	9	-5	16	18	19	-11	10	11	12	-12	9	12	14	5	5	5	2
10,000	-4.6	-2	2	4	6	2	7	9	10	12	17	18	19	6	10	12	15	4	9	12	14	5	5	2	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																				STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
ISTANBUL TO KARACHI																									2135 N.MI.
55,000	-56.5	-63	-6	-4	-2	-62	-5	-3	-2	-68	-12	-9	-8	-65	-9	-6	-5	-64	-8	-5	-3	4	4	4	4
40,000	-56.5	-55	1	4	6	-54	2	5	7	-47	10	12	14	-55	1	4	5	-53	4	7	9	4	5	4	4
30,000	-44.5	-45	-1	2	4	-42	3	6	7	-28	16	19	20	-38	6	8	10	-38	6	10	13	4	5	4	4
20,000	-21.2	-20	1	4	5	-15	6	9	10	-4	17	19	20	-12	9	11	12	-13	8	12	14	4	4	3	3
10,000	- 4.6	-4	0	3	5	3	7	10	11	13	17	19	20	5	10	12	13	4	9	12	14	4	4	3	3
ISTANBUL TO KHARTOUM																									1534 N.MI.
55,000	-56.5	-67	-10	-8	-7	-66	-9	-7	-6	-71	-14	-12	-11	-69	-13	-11	-9	-68	-12	-9	-8	3	3	3	3
40,000	-56.5	-54	2	4	6	-55	2	5	6	-48	8	10	11	-55	2	4	5	-53	3	6	7	4	4	2	3
30,000	-44.5	-43	1	3	4	-39	6	7	8	-29	16	17	18	-37	8	9	10	-37	8	11	13	3	3	3	3
20,000	-21.2	-16	5	7	8	-13	8	10	11	-5	16	18	18	-10	11	12	13	-11	10	13	14	3	3	2	2
10,000	- 4.6	-0	4	7	8	3	8	10	11	12	16	18	18	7	11	13	14	5	10	13	14	3	3	2	2
ISTANBUL TO LISBON																									1739 N.MI.
55,000	-56.5	-58	-1	2	4	-57	-0	2	4	-59	-2	-0	1	-61	-4	-2	-1	-59	-2	1	3	5	4	3	3
40,000	-56.5	-57	-3	3	5	-58	-1	2	4	-51	6	8	9	-56	0	3	4	-56	1	4	6	5	5	4	4
30,000	-44.5	-49	-4	-2	-0	-46	-1	1	3	-37	8	10	11	-41	3	6	7	-43	1	5	7	3	5	4	4
20,000	-21.2	-23	-2	1	3	-19	2	4	6	-11	11	13	14	-15	6	8	9	-17	4	7	9	4	4	3	4
10,000	- 4.6	-7	-2	1	3	-2	2	5	6	7	11	13	14	1	5	7	9	-0	4	8	10	4	4	3	3
ISTANBUL TO LONDON																									1356 N.MI.
55,000	-56.5	-56	0	4	5	-55	2	4	6	-53	4	6	7	-59	-2	0	2	-56	1	4	5	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	0	4	6	-50	6	9	11	-56	0	3	4	-55	3	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-47	-3	-0	1	-39	6	8	9	-43	3	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-22	-0	3	4	-13	9	11	12	-17	4	7	8	-19	2	5	7	5	4	3	4
10,000	- 4.6	-11	-6	-3	-1	-5	-1	2	4	3	7	10	11	-2	3	6	7	-4	1	4	6	5	4	3	4
ISTANBUL TO MADRID																									1466 N.MI.
55,000	-56.5	-57	-1	3	4	-56	0	3	4	-58	-2	0	2	-60	-4	-2	-0	-58	-2	1	3	5	4	3	3
40,000	-56.5	-57	-1	3	5	-57	-1	2	4	-51	6	8	10	-56	0	3	4	-56	1	4	6	5	5	4	4
30,000	-44.5	-49	-5	-2	-1	-46	-2	1	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	0	2	-20	2	4	5	-11	11	12	13	-15	6	8	9	-17	4	7	9	4	4	3	3
10,000	- 4.6	-7	-3	0	2	-3	2	5	6	6	11	13	14	0	5	7	8	-1	4	7	9	4	4	3	3
ISTANBUL TO MOSCOW																									965 N.MI.
55,000	-56.5	-56	1	4	6	-54	3	5	6	-51	6	8	9	-57	-1	2	3	-54	2	5	7	5	3	3	4
40,000	-56.5	-58	-1	2	3	-55	1	5	6	-49	8	10	12	-55	3	4	5	-54	2	6	8	5	5	4	4
30,000	-44.5	-52	-8	-5	-4	-47	-1	0	2	-38	6	9	10	-44	1	3	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-22	-1	3	5	-13	9	11	12	-18	3	6	8	-20	1	5	7	5	5	3	5
10,000	- 4.6	-13	-9	-5	-3	-6	-1	2	4	2	7	9	10	-3	1	4	6	-5	-0	3	5	6	5	3	5
ISTANBUL TO MUNICH																									846 N.MI.
55,000	-56.5	-56	1	4	5	-55	2	4	5	-54	2	4	6	-59	-2	-0	3	-56	0	3	4	5	4	3	4
40,000	-56.5	-57	-1	2	4	-57	-0	3	5	-50	7	9	11	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-3	-47	-3	-0	1	-38	7	9	10	-43	2	4	6	-45	-0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-2	-0	-21	-0	3	4	-12	9	11	12	-17	5	7	8	-19	2	6	7	5	4	3	4
10,000	- 4.6	-11	-7	-3	-1	-5	-1	2	4	4	8	10	11	-1	3	6	8	-3	1	5	7	5	4	3	4
ISTANBUL TO NAIROBI																									2575 N.MI.
55,000	-56.5	-71	-15	-13	-12	-71	-14	-12	-11	-73	-16	-15	-14	-73	-16	-14	-13	-72	-15	-13	-12	3	3	3	3
40,000	-56.5	-54	2	4	5	-53	3	5	7	-50	6	8	9	-54	3	4	5	-53	4	6	7	3	4	2	2
30,000	-44.5	-39	6	7	8	-35	9	11	12	-29	15	17	17	-34	10	12	13	-34	10	13	14	2	2	2	2
20,000	-21.2	-12	9	11	12	-10	11	13	14	-5	16	18	18	-8	13	14	15	-9	12	14	16	2	2	2	2
10,000	- 4.6	4	9	10	11	6	11	12	13	11	16	17	18	8	13	14	15	7	12	14	15	3	3	2	2
ISTANBUL TO NICOSIA																									407 N.MI.
55,000	-56.5	-58	-2	1	2	-57	-1	1	2	-64	-7	-5	-4	-61	-5	-3	-1	-60	-4	-1	0	4	3	3	3
40,000	-56.5	-56	0	3	5	-56	0	4	6	-47	9	11	13	-56	0	2	3	-54	3	6	8	4	5	3	3
30,000	-44.5	-49	-5	-2	-1	-45	-1	1	3	-32	11	15	16	-41	3	5	7	-42	3	7	9	3	3	3	3
20,000	-21.2	-23	-2	0	2	-19	2	5	6	-8	13	15	16	-15	7	8	9	-16	5	8	10	4	4	3	3
10,000	- 4.6	-8	-3	-1	1	-2	3	5	7	7	12	14	15	2	7	9	10	-0	5	8	10	4	4	3	3
ISTANBUL TO PARIS																									1210 N.MI.
55,000	-56.5	-56	0	4	5	-55	2	4	5	-54	3	5	6	-59	-2	0	1	-56	1	3	5	5	4	3	4
40,000	-56.5	-58	-1	2	4	-57	-0	3	5	-51	6	9	10	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-47	-1	0	1	-38	6	9	10	-43	2	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-21	-0	3	4	-12	9	11	12	-17	4	7	8	-19	2	6	7	5	4	3	4
10,000	- 4.6	-10	-6	-3	-1	-5	-1	2	4	3	8	10	11	-1	3	6	8	-3	1	5	7	5	4	3	4
ISTANBUL TO PRAGUE																									818 N.MI.
55,000	-56.5	-56	1	4	5	-55	2	4	6	-53	3	5	6	-59	-2	0	2	-56	1	4	5	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	0	4	5	-50	7	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-47	-3	-0	1	-38	6	9	10	-43	2	4	5	-45	-0	3	5	4	4	4	4
20,000	-21.2	-27	-5	-2	-0	-22	-0	3	4	-12	9	11	12	-17	4	7	8	-19	2	5	7	5	5	3	4
10,000	- 4.6	-12	-7	-4	-2	-5	-1	2	4	3	8	10	11	-2	3	6	7	-4	1	4	6	5	5	3	4
ISTANBUL TO RIO DE JANEIRO																									5537 N.MI.
55,000	-56.5	-72	-16	-13	-12	-71	-15	-13	-12	-71	-15	-12	-11	-72	-15	-13	-12	-72	-15	-13	-12	3	3	3	3
40,000	-56.5	-54	2	5	6	-54	3	6	7	-52	5	6	7	-54	3	5	5	-53	3	5	6	3	4	2	2
30,000	-44.5	-38	7	8	9	-35	10	11	12	-33	12	13	14	-34	10	12	13	-35	10	12	13	2	2	2	2
20,000	-21.2	-11	10	12	13	-9	12	13	14	-7	14	16	16	-8	13	14	15	-9	12	14	15	2	2	2	2
10,000	- 4.6	5	9	11	12	7	11	13	14	10	14	16	16	8	13	14	15	7	12	14	15	2	2	2	2
ISTANBUL TO ROME																									731 N.MI.
55,000	-56.5	-56	0	3	5	-56	1	3	4	-58	-2	1	2	-60	-4	-1	-0	-58	-1	2	3	5	4	3	3
40,000	-56.5	-57	-0	3	5	-57	-1	3	4	-49	7	10	11	-56	0	2	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-46	-2	1	2	-37	8	10	11	-42	3	5	6	-44	1	4	6	3	4	3	4
20,000	-21.2	-25	-4	-1	1	-20	1	4	5	-11	11	13	14	-16	6	8	9	-18	3	7	9	4	4	3	3
10,000	- 4.6	-9	-4	-2	-0	-4	1	4	5	5	10	12	13	0	5	7	8	-2	3	6	8	4	4	3	4
ISTANBUL TO SHANNON																									1677 N.MI.
55,000	-56.5	-56	0	3	5	-54	2	5	6	-52	4	6	8	-58	-2	1	2	-55	1	4	6	5	4	4	4
40,000	-56.5	-58	-1	2	4	-56	0	4	6	-50	6	9	11	-56	0	3	5	-55	1	5	8	6	6	5	4
30,000	-44.5	-51	-6	-4	-2	-47	-3	-0	1	-39	5	8	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-13	8	10	11	-17	4	7	8	-20	2	5	7	5	5	3	4
10,000	- 4.6	-11	-6	-2	-1	-6	-1	2	4	2	7	9	10	-2	3	6	7	-4	1	4	6	5	4	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
ISTANBUL TO SHARJAH																						1620 N.MI.			
55,000	-56.5	-63	-6	-4	-2	-62	-5	-3	-2	-69	-12	-10	-9	-65	-9	-6	-5	-65	-8	-5	-4	4	3	3	4
40,000	-56.5	-55	2	4	6	-55	2	5	7	-46	10	12	13	-55	1	3	5	-53	4	7	9	4	5	3	3
30,000	-44.5	-46	-1	1	3	-42	3	5	6	-28	16	18	19	-39	6	8	9	-39	6	10	12	4	3	3	3
20,000	-21.2	-20	1	4	5	-16	5	8	9	-4	17	19	20	-12	9	11	12	-13	8	12	14	4	3	3	3
10,000	-4.6	-4	1	3	5	2	7	9	10	12	17	19	20	5	10	12	13	4	8	12	14	4	4	2	3
ISTANBUL TO TEHERAN																						1102 N.MI.			
55,000	-56.5	-58	-7	1	3	-57	-1	1	3	-64	-7	-5	-4	-61	-5	-2	-1	-60	-4	-1	1	4	3	3	4
40,000	-56.5	-56	0	3	5	-55	1	5	6	-47	10	12	13	-56	0	3	4	-54	3	7	8	4	5	3	3
30,000	-44.5	-49	-5	-2	-1	-44	0	2	4	-31	14	16	17	-41	3	5	7	-41	3	8	10	3	3	3	3
20,000	-21.2	-24	-5	0	2	-18	3	6	7	-6	15	17	18	-15	6	9	10	-16	5	9	11	4	4	3	3
10,000	-4.6	-8	-4	-0	1	-1	4	6	8	9	14	16	17	3	7	10	11	1	5	9	11	5	4	3	4
ISTANBUL TO TEL AVIV-JAFFA																						612 N.MI.			
55,000	-56.5	-60	-3	-1	1	-58	-2	0	1	-66	-9	-7	-6	-63	-6	-4	-2	-62	-5	-2	-1	4	3	3	3
40,000	-56.5	-56	1	4	5	-56	0	4	6	-47	10	12	13	-56	0	2	4	-54	3	6	8	4	5	3	3
30,000	-44.5	-48	-4	-2	-0	-44	0	2	3	-31	14	16	17	-41	4	6	7	-41	4	8	10	3	3	3	3
20,000	-21.2	-22	-1	1	3	-18	3	5	7	-7	14	16	17	-14	7	9	10	-15	6	9	11	4	4	3	3
10,000	-4.6	-7	-2	0	2	-1	3	6	8	9	13	15	16	3	8	10	11	1	6	9	11	4	4	2	3
ISTANBUL TO VIENNA																						676 N.MI.			
55,000	-56.5	-56	1	4	5	-55	2	4	5	-54	2	4	6	-59	-2	0	1	-56	0	3	4	5	4	3	4
40,000	-56.5	-57	-1	2	4	-56	0	3	5	-49	7	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-47	-3	-0	1	-38	7	9	10	-45	2	4	6	-45	-0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-2	-0	-21	-0	3	5	-12	9	11	12	-17	4	7	8	-19	2	6	7	5	4	3	4
10,000	-4.6	-12	-7	-4	-2	-5	-1	3	4	3	8	10	11	-1	3	6	7	-4	1	5	6	5	5	3	4
ISTANBUL TO WARSAW																						745 N.MI.			
55,000	-56.5	-56	1	4	6	-54	2	4	6	-55	4	6	7	-58	-2	1	2	-55	1	4	5	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	1	4	6	-49	7	10	11	-56	0	3	4	-55	2	6	8	5	5	4	4
30,000	-44.5	-52	-7	-5	-3	-47	-3	-0	1	-38	6	9	10	-45	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-1	-22	-1	3	4	-12	9	11	12	-17	4	7	8	-20	2	5	7	5	4	3	4
10,000	-4.6	-12	-8	-4	-2	-6	-1	2	4	3	7	9	10	-2	2	5	7	-4	0	4	6	5	5	3	4
ISTANBUL TO ZURICH																						951 N.MI.			
55,000	-56.5	-56	1	4	5	-55	1	4	5	-55	2	4	5	-59	-3	-0	1	-56	0	3	4	5	4	3	4
40,000	-56.5	-58	-1	2	4	-57	-0	3	5	-50	6	9	10	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-47	-2	0	1	-38	7	9	10	-45	2	4	6	-45	-0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-21	0	3	5	-12	9	11	12	-17	5	7	5	-19	2	6	8	5	4	3	4
10,000	-4.6	-11	-6	-3	-1	-5	-0	3	4	4	8	10	12	-1	4	6	8	-3	1	5	7	5	4	3	4
JIDDA TO KANO																						1847 N.MI.			
55,000	-56.5	-75	-19	-17	-16	-76	-18	-16	-15	-76	-19	-18	-17	-77	-20	-18	-17	-76	-19	-17	-16	3	3	3	3
40,000	-56.5	-54	3	5	5	-52	4	6	7	-52	5	6	7	-52	4	5	6	-52	4	5	6	3	3	2	2
30,000	-44.5	-37	8	9	10	-32	12	14	14	-29	15	16	17	-32	12	14	14	-33	12	14	15	2	2	2	2
20,000	-21.2	-10	12	13	14	-8	13	15	15	-4	17	16	18	-6	15	16	16	-7	14	16	17	2	2	2	1
10,000	-4.6	8	12	14	14	10	14	15	16	13	17	14	19	10	14	15	16	10	14	16	17	2	2	2	1
JIDDA TO KARACHI																						1552 N.MI.			
55,000	-56.5	-72	-15	-13	-12	-72	-15	-13	-12	-74	-18	-16	-14	-75	-18	-16	-14	-73	-17	-14	-13	3	4	3	4
40,000	-56.5	-54	3	5	6	-52	4	7	8	-48	9	11	12	-55	3	5	6	-52	5	7	9	4	4	3	3
30,000	-44.5	-36	7	9	11	-35	10	12	13	-26	18	20	21	-33	12	14	15	-33	12	15	16	4	3	2	3
20,000	-21.2	-12	9	11	12	-8	13	15	16	-3	18	20	21	-7	14	16	16	-8	14	16	18	3	3	3	2
10,000	-4.6	5	9	11	12	9	14	15	16	16	21	22	23	9	13	15	15	10	14	17	18	3	3	2	2
JIDDA TO KHARTOUM																						517 N.MI.			
55,000	-56.5	-75	-18	-17	-16	-75	-18	-16	-15	-76	-19	-17	-16	-77	-20	-18	-17	-75	-19	-17	-16	3	3	3	3
40,000	-56.5	-54	3	4	5	-55	4	6	7	-50	6	7	8	-55	4	5	6	-52	4	6	7	2	3	2	2
30,000	-44.5	-37	8	9	10	-33	12	13	14	-28	16	17	18	-32	12	14	15	-32	12	14	15	2	2	2	2
20,000	-21.2	-9	12	13	14	-8	14	15	16	-4	17	18	19	-6	15	16	17	-7	14	16	17	2	2	2	2
10,000	-4.6	8	12	14	15	9	14	15	16	14	19	20	20	9	14	15	16	10	15	17	18	2	2	2	2
JIDDA TO KUWAIT																						670 N.MI.			
55,000	-56.5	-70	-13	-11	-10	-69	-13	-11	-10	-74	-17	-15	-14	-73	-16	-14	-13	-71	-15	-12	-11	3	3	3	3
40,000	-56.5	-54	3	5	6	-53	3	6	7	-48	9	11	12	-54	3	5	6	-52	4	7	8	3	4	3	3
30,000	-44.5	-40	4	6	8	-36	8	10	11	-26	18	20	21	-34	10	12	13	-34	10	13	15	3	3	2	3
20,000	-21.2	-14	8	9	10	-11	10	12	13	-3	18	20	21	-8	13	14	15	-9	12	15	17	3	3	2	2
10,000	-4.6	3	7	9	10	6	11	13	14	16	21	22	23	8	13	14	15	8	13	16	17	3	3	2	2
JIDDA TO RIYADH																						457 N.MI.			
55,000	-56.5	-72	-15	-13	-12	-72	-15	-13	-12	-74	-18	-16	-15	-75	-18	-16	-15	-73	-17	-14	-13	3	3	3	3
40,000	-56.5	-54	3	5	6	-53	4	6	7	-48	8	10	11	-55	3	5	6	-52	4	7	8	3	4	2	2
30,000	-44.5	-39	6	8	9	-35	10	12	13	-27	18	19	20	-33	11	13	14	-33	11	14	15	3	3	2	3
20,000	-21.2	-12	9	11	12	-9	12	13	14	-6	18	19	20	-7	14	15	16	-8	13	16	17	2	2	2	2
10,000	-4.6	5	9	11	12	8	12	14	15	16	21	22	22	9	13	15	15	9	14	16	18	3	2	2	2
JIDDA TO TEHERAN																						1062 N.MI.			
55,000	-56.5	-67	-11	-8	-7	-66	-10	-8	-6	-72	-16	-14	-12	-70	-13	-11	-9	-69	-12	-10	-8	3	3	3	4
40,000	-56.5	-54	2	5	6	-54	3	6	7	-47	10	11	12	-54	2	4	5	-52	4	7	9	4	4	3	3
30,000	-44.5	-42	2	4	6	-38	6	8	9	-26	18	20	21	-36	8	10	11	-36	9	12	14	3	3	3	3
20,000	-21.2	-16	5	7	8	-13	8	10	11	-3	19	20	21	-10	11	13	14	-10	11	14	16	3	3	3	2
10,000	-4.6	0	5	7	8	5	9	11	12	16	20	22	22	7	12	14	15	7	11	15	16	3	3	2	3
JIDDA TO TRIPOLI																						1539 N.MI.			
55,000	-56.5	-68	-11	-9	-8	-66	-10	-8	-7	-72	-16	-14	-13	-70	-13	-11	-10	-69	-13	-10	-9	3	3	3	3
40,000	-56.5	-54	2	5	6	-55	2	5	6	-48	8	10	11	-54	2	4	5	-55	4	6	7	4	4	2	3
30,000	-44.5	-43	1	3	4	-38	6	8	9	-28	16	18	19	-36	8	10	11	-36	8	11	13	3	3	3	2
20,000	-21.2	-16	6	8	9	-13	9	11	12	-4	17	18	19	-10	11	13	13	-11	11	13	15	3	3	2	2
10,000	-4.6	1	5	7	9	4	9	11	12	15	18	19	20	7	12	13	14	6	11	14	15	3	3	2	2
JOHANNESBURG TO KANO																						2564 N.MI.			
55,000	-56.5	-76	-20	-18	-16	-76	-19	-17	-16	-72	-16	-14	-13	-74	-18	-16	-15	-75	-18	-16	-14	3	3	3	3
40,000	-56.5	-55	4	6	7	-52	5	7	8	-55	4	5	6	-52	5	6	7	-52	4	6	8	3	3	2	2
30,000	-44.5	-37	13	14	15	-31	13	15	16	-33	11	13	14	-32	13	14	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-6	16	17	17	-6	16	17	17	-6	15	16	17	-6	15	16	16	-6	15	16	17	1	2	2	1
10,000	-4.6	10	14	15	16	9	14	15	16	7	11	13	13	10	15	16	16	9	13	15	16	2	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY				APRIL				JULY				OCTOBER				ANNUAL				STANDARD DEVIATION			
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
JOHANNESBURG TO KHARTOUM																						2517 N.MI.			
55,000	-56.5	-76	-20	-18	-17	-76	-19	-17	-16	-72	-16	-14	-13	-75	-18	-16	-15	-75	-18	-16	-15	3	3	3	3
40,000	-56.5	-53	4	6	6	-52	5	7	8	-52	4	6	7	-52	4	6	7	-52	4	6	7	2	3	2	2
30,000	-44.5	-31	13	14	15	-31	13	15	16	-32	12	14	14	-32	13	14	15	-52	13	14	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-6	16	17	17	-6	15	16	17	-6	15	16	16	-6	15	17	17	1	2	2	2
10,000	- 4.6	10	15	16	16	9	14	15	16	8	12	13	14	10	14	16	16	9	14	15	16	2	2	2	2
JOHANNESBURG TO KIMBERLEY																						245 N.MI.			
55,000	-56.5	-69	-13	-10	-8	-68	-12	-9	-8	-62	-5	-2	-1	-65	-9	-6	-5	-66	-9	-6	-4	4	4	4	4
40,000	-56.5	-52	4	7	8	-54	3	5	6	-52	5	7	8	-53	4	6	8	-53	4	6	8	4	4	3	4
30,000	-44.5	-34	11	13	14	-37	6	10	11	-39	6	8	9	-37	8	10	11	-37	8	11	12	3	3	4	3
20,000	-21.2	-7	14	15	16	-10	11	13	13	-14	8	10	11	-10	11	13	14	-10	11	13	14	2	2	3	3
10,000	- 4.6	10	15	16	17	7	11	13	14	1	6	8	9	7	11	13	14	6	11	13	14	2	3	3	3
JOHANNESBURG TO LAGOS																						2441 N.MI.			
55,000	-56.5	-76	-20	-17	-16	-75	-19	-17	-16	-72	-15	-13	-12	-74	-17	-15	-14	-74	-18	-15	-14	3	3	3	3
40,000	-56.5	-55	4	6	7	-52	5	7	8	-52	4	6	7	-52	4	6	7	-52	4	6	8	3	3	2	3
30,000	-44.5	-32	13	14	15	-31	13	15	15	-33	11	13	13	-32	12	14	15	-32	12	14	15	2	2	2	2
20,000	-21.2	-5	16	17	17	-6	16	17	17	-7	14	16	17	-7	15	16	16	-6	15	16	17	1	2	2	2
10,000	- 4.6	10	14	15	16	9	14	15	16	6	11	12	13	10	14	16	16	9	13	15	16	2	2	2	2
JOHANNESBURG TO LEOPOLDVILLE																						1498 N.MI.			
55,000	-56.5	-76	-19	-17	-15	-75	-16	-16	-14	-70	-13	-11	-10	-72	-15	-13	-12	-73	-16	-14	-12	4	4	3	3
40,000	-56.5	-52	4	6	7	-52	4	7	8	-52	5	7	6	-52	4	6	7	-52	4	6	7	3	3	3	3
30,000	-44.5	-31	14	15	16	-32	12	14	15	-34	11	12	13	-33	12	13	14	-32	12	14	15	2	2	3	3
20,000	-21.2	-5	16	17	18	-6	15	16	17	-7	14	15	16	-7	14	15	16	-6	15	16	17	1	2	2	2
10,000	- 4.6	10	14	16	16	9	13	15	15	5	9	11	12	10	14	16	16	8	13	14	15	2	2	2	2
JOHANNESBURG TO LIBREVILLE																						1932 N.MI.			
55,000	-56.5	-76	-19	-17	-16	-75	-19	-16	-15	-73	-13	-12	-11	-73	-16	-14	-13	-74	-17	-14	-13	4	3	3	3
40,000	-56.5	-52	4	6	7	-52	4	7	8	-52	4	6	7	-52	4	6	7	-52	4	6	8	3	3	3	3
30,000	-44.5	-31	13	15	16	-32	13	14	15	-34	11	12	13	-32	12	14	15	-52	12	14	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-6	15	17	17	-7	14	16	16	-7	14	16	16	-6	15	16	17	1	2	2	2
10,000	- 4.6	10	14	16	16	9	13	15	15	5	10	11	12	10	14	16	16	8	13	15	15	2	2	2	2
JOHANNESBURG TO LIVINGSTONE																						517 N.MI.			
55,000	-56.5	-74	-17	-14	-13	-72	-15	-13	-11	-66	-9	-7	-6	-69	-12	-10	-8	-70	-13	-10	-8	4	4	4	4
40,000	-56.5	-52	5	7	8	-52	4	6	8	-51	5	7	6	-53	4	6	7	-52	4	7	6	3	3	3	3
30,000	-44.5	-31	13	15	16	-34	10	12	13	-35	9	11	12	-35	10	12	13	-34	11	13	14	3	3	3	3
20,000	-21.2	-6	16	17	17	-8	13	14	15	-10	12	14	15	-8	13	14	15	-8	13	15	16	2	2	3	2
10,000	- 4.6	10	15	16	17	8	12	14	15	5	8	10	11	9	13	15	16	7	12	14	15	2	2	3	2
JOHANNESBURG TO LONDON																						4896 N.MI.			
55,000	-56.5	-71	-14	-12	-10	-69	-13	-11	-10	-69	-13	-11	-9	-70	-14	-12	-11	-70	-13	-11	-10	4	3	3	3
40,000	-56.5	-54	2	5	6	-55	3	6	7	-52	5	6	7	-55	3	5	6	-55	3	5	6	4	4	3	3
30,000	-44.5	-58	6	8	9	-56	9	10	11	-33	11	13	14	-55	10	11	12	-56	9	11	12	2	2	3	3
20,000	-21.2	-12	9	11	12	-10	11	13	14	-4	14	15	16	-9	12	13	14	-10	12	14	15	2	2	2	2
10,000	- 4.6	4	9	11	12	6	10	12	13	8	13	14	15	7	12	13	14	6	11	13	14	3	2	2	2
JOHANNESBURG TO MAURITIUS																						1654 N.MI.			
55,000	-56.5	-72	-16	-13	-12	-71	-14	-12	-10	-65	-8	-6	-4	-68	-12	-9	-8	-69	-13	-9	-7	4	4	4	4
40,000	-56.5	-52	4	6	8	-55	3	5	6	-52	5	7	8	-55	4	6	7	-55	4	6	8	4	3	3	3
30,000	-44.5	-31	13	15	16	-35	9	11	12	-36	9	11	12	-56	9	11	12	-34	10	12	14	3	3	3	3
20,000	-21.2	-6	15	16	17	-9	12	14	14	-10	11	13	14	-9	12	14	14	-8	13	14	15	1	2	3	2
10,000	- 4.6	10	14	15	16	8	13	14	15	4	8	10	11	7	12	14	15	7	12	13	14	2	2	3	3
JOHANNESBURG TO MELBOURNE																						5568 N.MI.			
55,000	-56.5	-54	2	5	6	-58	-1	1	3	-57	-1	2	3	-53	3	6	8	-56	1	4	6	4	4	4	5
40,000	-56.5	-52	5	8	10	-55	1	5	7	-56	1	4	6	-52	4	8	10	-54	3	7	9	5	5	5	5
30,000	-44.5	-42	3	5	7	-45	-0	2	3	-50	-5	-2	-1	-46	-2	1	2	-46	-1	2	4	4	4	4	4
20,000	-21.2	-17	4	7	8	-20	1	4	6	-24	-3	-0	1	-22	-1	2	4	-21	0	4	6	4	5	4	4
10,000	- 4.6	-2	3	6	7	-4	1	4	5	-9	-4	-1	0	-7	-2	1	3	-5	-1	3	5	4	4	4	5
JOHANNESBURG TO NAIROBI																						1571 N.MI.			
55,000	-56.5	-76	-19	-17	-16	-75	-16	-16	-14	-70	-13	-11	-10	-73	-16	-14	-13	-73	-17	-14	-13	4	4	3	3
40,000	-56.5	-52	5	6	6	-52	5	7	8	-52	5	7	7	-52	4	6	7	-52	5	6	7	3	3	3	3
30,000	-44.5	-30	14	16	16	-32	13	14	15	-33	11	13	14	-33	12	13	14	-32	12	14	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-6	15	16	17	-7	14	16	17	-7	14	16	16	-6	15	16	17	1	2	2	2
10,000	- 4.6	10	14	16	16	9	13	14	15	6	10	12	13	9	14	15	16	8	13	14	15	2	2	2	2
JOHANNESBURG TO NEW YORK																						6924 N.MI.			
55,000	-56.5	-73	-16	-14	-13	-72	-15	-13	-12	-70	-14	-12	-11	-72	-16	-14	-13	-72	-15	-13	-12	3	3	3	3
40,000	-56.5	-55	2	4	5	-55	2	5	6	-54	3	4	5	-55	[illegible]	5	6	-54	2	4	5	4	4	2	3
30,000	-44.5	-36	8	10	11	-35	9	11	12	-14	10	12	13	-34	11	12	13	-35	10	12	13	2	2	2	2
20,000	-21.2	-10	11	13	14	-9	12	13	14	-7	14	15	16	-8	13	15	16	-9	13	14	15	2	2	2	2
10,000	- 4.6	6	10	12	13	6	11	12	13	7	12	13	14	8	13	14	15	7	11	13	14	2	2	2	2
JOHANNESBURG TO PERTH																						4484 N.MI.			
55,000	-56.5	-62	-6	-3	-2	-63	-6	-4	-2	-58	-2	1	3	-59	-3	-0	1	-61	-4	-1	1	4	4	4	4
40,000	-56.5	-55	2	5	7	-57	-0	2	4	-54	3	6	8	-52	4	7	9	-54	2	6	7	4	4	4	4
30,000	-44.5	-38	6	9	10	-41	4	6	7	-44	1	4	5	-42	3	5	7	-41	3	6	8	3	3	4	4
20,000	-21.2	-12	9	11	13	-15	6	8	9	-19	2	4	6	-16	5	8	9	-16	6	8	10	3	3	4	4
10,000	- 4.6	3	8	10	11	2	6	8	10	-2	2	5	6	-1	3	6	7	0	5	8	9	3	3	4	4
JOHANNESBURG TO PIETERSBURG																						152 N.MI.			
55,000	-56.5	-72	-15	-12	-11	-70	-14	-11	-9	-64	-7	-5	-3	-67	-10	-8	-7	-68	-12	-8	-6	4	4	4	4
40,000	-56.5	-52	5	7	8	-55	3	6	7	-52	5	7	8	-55	4	6	7	-52	4	7	8	4	4	3	3
30,000	-44.5	-32	12	14	15	-55	9	11	12	-37	8	10	11	-36	9	11	12	-35	9	12	13	3	3	3	3
20,000	-21.2	-6	15	16	17	-9	12	13	14	-11	10	12	13	-9	12	13	14	-9	12	14	15	2	2	3	2
10,000	- 4.6	10	15	16	17	7	12	13	14	2	7	9	10	8	13	14	15	7	12	14	15	2	2	3	3
JOHANNESBURG TO PORT ELIZABETH																						490 N.MI.			
55,000	-56.5	-66	-10	-7	-6	-66	-9	-7	-5	-60	-3	-0	1	-63	-7	-4	-2	-64	-7	-4	-2	4	4	4	4
40,000	-56.5	-53	3	6	8	-55	2	4	6	-52	5	7	8	-53	4	6	8	-53	3	6	8	4	4	4	4
30,000	-44.5	-35	9	11	12	-38	7	9	10	-41	4	6	8	-38	6	9	10	-38	6	9	11	3	3	4	3
20,000	-21.2	-9	12	14	15	-11	10	12	13	-16	6	8	9	-12	9	11	12	-12	9	12	13	2	3	3	3
10,000	- 4.6	9	13	15	16	6	10	12	13	0	5	7	8	5	10	12	13	5	10	12	13	3	3	3	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																				STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50*	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
JOHANNESBURG TO RIO DE JANEIRO																									3859 N.MI.
53,000	-56.5	-69	-13	-10	-9	-68	-12	-9	-8	-61	-5	-2	-1	-65	-8	-5	-4	-66	-9	-6	-4	4	4	4	4
40,000	-56.5	-53	3	6	8	-55	2	5	6	-52	5	7	9	-53	3	6	7	-53	3	6	7	4	4	3	4
30,000	-44.5	-35	9	11	12	-37	8	10	11	-40	5	7	9	-37	7	10	11	-37	7	10	11	3	3	4	3
20,000	-21.2	-8	13	15	16	-11	10	12	13	-15	7	9	10	-10	11	13	14	-11	10	13	14	3	3	3	3
10,000	-4.6	8	13	15	16	6	11	13	14	1	5	7	8	6	10	12	13	5	10	12	14	3	3	3	3
JOHANNESBURG TO ROME																									4168 N.MI.
53,000	-56.5	-72	-16	-14	-13	-72	-15	-13	-12	-71	-15	-13	-12	-72	-16	-14	-13	-72	-15	-13	-12	3	3	3	3
40,000	-56.5	-54	3	5	6	-53	4	6	7	-51	5	7	8	-53	3	5	6	-53	4	6	7	3	3	2	2
30,000	-44.5	-36	8	10	10	-34	10	12	13	-32	12	14	15	-34	11	12	13	-34	10	12	13	2	2	2	2
20,000	-21.2	-10	11	13	13	-9	13	14	15	-6	15	16	17	-8	13	14	15	-8	13	15	16	2	2	2	2
10,000	-4.6	6	11	12	13	7	12	13	14	9	13	15	15	8	13	14	15	8	12	14	15	2	2	2	2
JOHANNESBURG TO SALISBURY																									517 N.MI.
53,000	-56.5	-73	-17	-14	-13	-72	-15	-13	-11	-66	-9	-7	-6	-69	-12	-10	-8	-70	-13	-10	-8	4	4	4	4
40,000	-56.5	-52	5	7	8	-52	4	6	8	-51	5	7	8	-52	4	6	7	-52	4	7	8	3	3	3	3
30,000	-44.5	-31	14	15	16	-34	11	12	13	-35	9	11	12	-35	10	12	13	-34	11	13	14	3	3	3	3
20,000	-21.2	-6	16	17	17	-8	13	14	15	-9	12	14	15	-8	13	14	15	-8	13	15	16	2	2	3	2
10,000	-4.6	10	15	16	16	8	12	14	15	5	8	10	11	8	13	15	16	7	12	14	15	2	2	3	2
JOHANNESBURG TO TANANARIVE																									1130 N.MI.
53,000	-56.5	-73	-17	-14	-12	-71	-15	-12	-11	-65	-9	-6	-5	-68	-12	-10	-8	-70	-13	-10	-8	4	4	4	4
40,000	-56.5	-52	4	7	8	-53	3	6	7	-51	5	7	8	-53	4	6	7	-52	4	6	8	3	3	3	3
30,000	-44.5	-31	13	15	16	-35	10	12	13	-35	9	11	12	-35	9	11	12	-34	10	13	14	3	3	3	3
20,000	-21.2	-6	16	17	17	-9	13	14	15	-9	12	14	15	-9	13	14	15	-8	13	15	16	1	2	3	2
10,000	-4.6	10	14	16	16	8	13	14	15	4	8	10	11	8	13	14	15	8	12	14	15	2	2	3	3
JOHANNESBURG TO TOKYO																									7296 N.MI.
53,000	-56.5	-74	-18	-15	-14	-73	-16	-14	-12	-72	-15	-13	-12.	-73	-17	-14	-13	-73	-17	-14	-12	4	4	4	4
40,000	-56.5	-53	3	5	7	-52	4	6	8	-51	5	7	8	-53	3	5	7	-52	4	6	7	3	3	3	1
30,000	-44.5	-33	12	13	14	-33	12	14	15	-30	14	16	17	-32	12	14	15	-32	12	15	16	3	3	3	3
20,000	-21.2	-9	13	14	15	-8	14	15	16	-5	16	17	18	-7	14	16	16	-7	14	16	17	2	2	2	2
10,000	-4.6	5	10	12	12	7	12	14	14	9	14	15	15	8	12	14	15	7	12	14	14	2	2	2	2
JOHANNESBURG TO TRIPOLI																									3644 N.MI.
53,000	-56.5	-75	-18	-16	-15	-74	-17	-15	-14	-73	-16	-14	-13	-74	-17	-15	-14	-74	-17	-15	-14	3	3	3	3
40,000	-56.5	-53	3	5	6	-52	4	6	8	-52	5	6	7	-53	4	6	6	-52	4	6	7	3	3	2	2
30,000	-44.5	-35	10	11	12	-33	12	13	14	-32	13	14	15	-33	12	13	14	-33	12	13	14	2	2	2	2
20,000	-21.2	-8	13	14	15	-7	14	15	16	-6	15	17	17	-7	14	15	16	-7	14	16	16	2	2	2	1
10,000	-4.6	8	12	14	14	8	13	14	15	9	14	15	15	9	14	15	16	9	13	15	15	2	2	2	2
JOHANNESBURG TO WINDHOEK																									665 N.MI.
53,000	-56.5	-72	-16	-13	-11	-70	-14	-11	-10	-66	-8	-5	-4	-67	-11	-8	-7	-68	-12	-9	-7	4	4	4	4
40,000	-56.5	-52	5	7	8	-53	3	6	7	-52	5	7	8	-53	4	6	7	-52	4	7	8	4	4	3	3
30,000	-44.5	-32	12	14	15	-35	9	11	12	-37	8	10	11	-36	9	11	12	-35	9	12	13	3	3	3	3
20,000	-21.2	-6	15	16	17	-9	12	13	14	-12	9	11	12	-9	12	14	14	-9	12	14	15	2	2	3	2
10,000	-4.6	10	15	16	17	7	12	14	15	2	7	9	10	8	13	14	15	7	12	14	15	2	2	3	3
JOHNSTON IS. TO KWAJALEIN																									1414 N.MI.
53,000	-56.5	-77	-21	-19	-17	-76	-20	-18	-17	-77	-20	-18	-17	-76	-19	-17	-16	-76	-20	-18	-17	3	3	3	3
40,000	-56.5	-53	4	6	7	-54	2	5	6	-54	2	4	4	-54	3	4	5	-54	3	5	6	3	3	2	2
30,000	-44.5	-32	13	14	15	-33	11	13	14	-32	12	14	14	-32	13	14	15	-32	12	14	14	3	2	2	2
20,000	-21.2	-6	16	17	18	-7	15	16	17	-6	16	17	17	-6	16	17	17	-6	15	17	17	2	2	2	2
10,000	-4.6	9	14	15	16	9	13	15	15	10	14	15	16	10	15	16	17	10	14	15	16	2	2	2	2
KADENA TO MEXICO CITY																									6929 N.MI.
53,000	-56.5	-59	-2	1	2	-59	-2	0	2	-61	-4	-2	-0	-62	-6	-3	-1	-60	-4	-0	1	5	4	4	4
40,000	-56.5	-52	4	8	.10	-55	2	5	7	-52	5	7	9	-53	3	6	8	-53	1	6	8	6	5	4	4
30,000	-44.5	-43	1	4	5	-43	2	4	6	-35	10	12	13	-38	6	9	10	-40	5	8	10	4	3	3	4
20,000	-21.2	-20	1	4	6	-18	3	7	8	-9	13	15	16	-14	7	10	11	-15	6	9	11	5	4	3	4
10,000	-4.6	-5	-0	3	4	-3	2	5	6	7	11	13	14	1	5	8	9	-0	5	8	9	5	4	3	4
KANO TO KHARTOUM																									1416 N.MI.
53,000	-56.5	-77	-20	-18	-17	-76	-19	-18	-17	-76	-20	-18	-17	-77	-20	-19	-18	-76	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-51	4	5	6	-52	5	6	6	-53	4	6	7	2	3	2	2
30,000	-44.5	-35	9	10	11	-31	13	15	15	-30	14	16	16	-31	13	14	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-8	13	14	15	-7	14	16	16	-5	17	18	18	-6	15	16	16	-6	15	16	17	2	2	1	1
10,000	-4.6	9	14	15	16	10	15	16	17	11	16	17	17	10	15	16	16	10	15	16	17	2	2	1	1
KANO TO LAGOS																									449 N.MI.
53,000	-56.5	-77	-21	-19	-18	-77	-20	-18	-17	-76	-20	-18	-17	-77	-21	-19	-18	-77	-20	-19	-18	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-54	2	3	4	-52	5	6	7	-53	4	5	6	3	3	2	2
30,000	-44.5	-34	10	11	12	-30	15	16	16	-32	13	14	15	-31	14	15	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-8	13	14	15	-6	15	16	17	-5	16	17	18	-6	16	16	16	-6	15	16	17	1	2	1	1
10,000	-4.6	9	13	14	15	10	15	16	17	10	15	16	16	10	15	16	16	10	14	16	16	1	2	1	1
KANO TO LEOPOLDVILLE																									1069 N.MI.
53,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-18	-76	-19	-18	-17	-77	-21	-19	-18	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-54	3	4	5	-52	5	6	7	-53	4	5	6	2	3	2	2
30,000	-44.5	-33	11	13	13	-30	15	16	17	-32	13	14	14	-30	14	15	16	-31	13	15	15	2	2	2	2
20,000	-21.2	-6	15	16	16	-5	16	18	18	-5	16	17	18	-6	16	16	17	-5	16	17	18	1	2	1	1
10,000	-4.6	10	14	15	16	10	15	16	17	9	14	15	15	10	15	16	16	10	14	15	16	1	2	1	1
KANO TO LIBREVILLE																									698 N.MI.
53,000	-56.5	-77	-21	-19	-18	-77	-20	-19	-18	-76	-20	-18	-17	-77	-21	-19	-18	-77	-20	-19	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-54	2	3	4	-52	5	6	7	-53	4	5	6	2	3	2	2
30,000	-44.5	-34	11	12	12	-30	15	16	16	-32	13	14	15	-31	14	15	16	-31	13	14	15	2	2	2	2
20,000	-21.2	-7	14	15	16	-5	16	17	18	-5	16	17	18	-6	16	16	17	-6	16	17	17	1	2	1	1
10,000	-4.6	9	14	15	15	10	15	16	17	9	14	15	15	10	15	16	16	10	14	15	16	1	2	1	1
KANO TO LISBON																									1859 N.MI.
53,000	-56.5	-69	-12	-10	-9	-67	-11	-9	-8	-71	-15	-13	-12	-70	-14	-12	-11	-69	-13	-10	-9	3	3	3	3
40,000	-56.5	-55	1	4	5	-54	2	5	7	-52	5	6	7	-54	2	4	5	-54	3	5	6	4	4	2	3
30,000	-44.5	-42	3	4	5	-37	7	9	10	-33	12	13	14	-36	9	10	11	-37	8	10	11	2	2	2	2
20,000	-21.2	-14	7	8	9	-12	9	11	12	-7	15	16	16	-9	12	13	14	-11	11	13	14	3	2	2	2
10,000	-4.6	3	7	9	10	5	10	12	13	13	18	19	20	7	11	13	13	7	12	14	15	3	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
KANO TO LIVINGSTONE																						2064 N.MI.			
55,000	-56.5	-77	-21	-18	-17	-77	-20	-18	-17	-76	-18	-16	-15	-76	-19	-17	-16	-76	-19	-17	-16	3	3	3	3
40,000	-56.5	-53	3	5	6	-52	5	7	8	-53	4	5	6	-52	5	6	7	-52	4	6	7	3	3	2	2
30,000	-44.5	-32	13	14	14	-30	14	16	16	-32	12	13	14	-31	14	15	16	-31	13	15	15	2	2	2	2
20,000	-21.2	-6	16	16	17	-5	16	18	18	-5	16	17	17	-6	15	16	17	-5	16	17	18	1	2	2	1
10,000	-4.6	10	14	15	16	10	14	15	16	8	12	13	14	10	15	16	17	9	14	15	16	2	2	2	2
KANO TO LONDON																						2405 N.MI.			
55,000	-56.5	-65	-9	-6	-5	-64	-7	-5	-4	-66	-10	-8	-6	-67	-10	-8	-7	-66	-9	-6	-5	4	3	3	3
40,000	-56.5	-56	1	4	5	-55	2	5	6	-52	5	7	8	-55	2	4	5	-54	2	5	6	5	5	3	3
30,000	-44.5	-44	0	2	3	-40	4	6	7	-34	10	12	13	-38	6	8	9	-39	5	8	10	3	3	3	3
20,000	-21.2	-18	4	6	7	-15	7	9	10	-8	13	15	15	-12	10	11	12	-13	8	11	12	3	3	2	2
10,000	-4.6	-1	4	6	7	5	7	9	10	10	15	16	17	4	9	11	12	4	9	12	13	3	3	2	3
KANO TO LUANDA																						1205 N.MI.			
55,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-18	-76	-19	-17	-16	-77	-20	-18	-17	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-54	3	4	5	-52	5	6	7	-53	4	5	6	2	3	2	2
30,000	-44.5	-33	12	13	13	-30	15	16	16	-32	12	14	14	-31	14	15	16	-31	13	15	15	2	2	2	2
20,000	-21.2	-6	15	16	16	-5	17	18	18	-5	16	17	18	-6	16	16	17	-5	16	17	18	1	2	1	1
10,000	-4.6	10	14	15	16	10	15	16	16	9	13	14	15	10	15	16	17	10	14	15	16	1	2	2	1
KANO TO MADRID																						1821 N.MI.			
55,000	-56.5	-68	-12	-9	-8	-67	-10	-6	-7	-71	-14	-12	-11	-70	-13	-11	-10	-69	-12	-10	-9	4	3	3	3
40,000	-56.5	-55	1	4	6	-54	2	5	7	-52	5	6	7	-54	2	4	5	-54	3	5	6	4	4	2	3
30,000	-44.5	-42	2	4	5	-34	7	8	9	-33	12	13	14	-36	8	10	11	-37	7	10	11	2	2	2	2
20,000	-21.2	-15	6	8	9	-12	9	11	11	-7	15	16	16	-10	12	13	14	-13	10	12	14	3	2	2	2
10,000	-4.6	2	7	9	10	5	10	12	12	13	17	19	19	6	13	12	13	7	11	14	15	3	3	2	2
KANO TO NAIROBI																						1874 N.MI.			
55,000	-56.5	-77	-21	-19	-16	-77	-21	-19	-18	-74	-20	-18	-17	-77	-21	-19	-14	-77	-21	-19	-18	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-53	1	4	5	-52	5	6	7	-53	4	5	6	2	3	2	2
30,000	-44.5	-33	12	11	13	-30	15	16	17	-31	13	14	15	-30	14	15	16	-33	14	15	16	2	2	2	2
20,000	-21.2	-6	15	16	17	-5	17	18	18	-5	16	17	18	-6	16	16	17	-5	16	17	18	1	2	1	1
10,000	-4.6	10	14	16	16	10	15	16	16	10	14	15	16	10	15	16	16	10	15	16	16	2	2	1	1
KANO TO NATAL																						2025 N.MI.			
55,000	-56.5	-78	-21	-19	-18	-77	-21	-19	-18	-75	-18	-16	-15	-77	-21	-19	-18	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	2	4	5	-52	4	7	8	-54	3	4	5	-52	4	4	6	-53	3	6	7	3	3	2	2
30,000	-44.5	-33	11	12	13	-30	15	16	17	-32	13	14	14	-31	14	15	14	-33	13	15	15	2	2	2	2
20,000	-21.2	-7	15	16	16	-6	16	17	17	-6	16	17	17	-6	16	17	17	-6	15	16	17	2	2	1	1
10,000	-4.6	9	14	15	15	10	14	16	16	9	14	15	15	10	15	16	17	10	14	15	16	3	2	2	2
KANO TO PARIS																						2235 N.MI.			
55,000	-56.5	-66	-9	-7	-5	-64	-6	-6	-4	-67	-11	-9	-8	-67	-13	-9	-8	-66	-10	-7	-6	4	3	3	3
40,000	-56.5	-56	1	4	5	-55	2	5	6	-52	5	7	8	-55	2	4	5	-54	2	5	6	4	4	3	3
30,000	-44.5	-44	1	3	4	-40	5	7	8	-34	11	12	13	-36	7	9	10	-39	6	9	10	3	3	3	3
20,000	-21.2	-17	4	6	7	-14	7	9	10	-9	13	15	16	-11	10	12	12	-13	9	11	12	3	3	2	2
10,000	-4.6	-0	4	7	8	1	8	10	11	11	15	17	18	5	9	13	12	5	9	12	14	3	3	2	2
KANO TO ROME																						1798 N.MI.			
55,000	-56.5	-68	-11	-9	-8	-66	-10	-8	-7	-70	-14	-12	-11	-69	-13	-11	-10	-68	-12	-9	-8	3	3	3	3
40,000	-56.5	-55	2	4	6	-54	2	5	7	-51	6	7	8	-54	2	4	5	-54	3	5	6	4	4	2	3
30,000	-44.5	-43	2	3	4	-38	6	8	9	-32	12	14	15	-37	8	10	10	-37	7	10	11	2	2	3	2
20,000	-21.2	-16	5	7	8	-13	8	10	11	-6	15	16	17	-10	11	12	13	-11	10	12	13	3	3	2	2
10,000	-4.6	1	6	8	9	5	9	11	12	12	17	18	19	6	11	12	13	6	11	13	15	3	3	2	2
KANO TO SANTA MARIA																						2348 N.MI.			
55,000	-56.5	-70	-13	-11	-10	-68	-12	-9	-8	-71	-15	-13	-12	-71	-14	-13	-11	-70	-13	-11	-10	3	3	3	3
40,000	-56.5	-56	1	1	5	-55	2	5	8	-52	4	5	6	-54	2	4	5	-54	2	4	5	4	4	2	3
30,000	-44.5	-41	3	5	6	-37	8	9	10	-33	11	13	14	-35	9	11	13	-37	8	10	11	2	2	2	2
20,000	-21.2	-14	7	9	10	-11	10	11	12	-7	14	14	16	-9	13	14	14	-10	11	13	14	2	2	2	2
10,000	-4.6	4	8	10	11	5	10	12	13	12	17	18	19	7	12	13	14	7	12	14	15	2	2	2	2
KANO TO TANANARIVE																						2950 N.MI.			
55,000	-56.5	-77	-21	-18	-17	-77	-20	-18	-17	-74	-17	-15	-14	-76	-19	-17	-16	-76	-19	-17	-16	3	3	3	3
40,000	-56.5	-53	4	5	6	-52	5	7	8	-53	4	5	6	-52	5	6	7	-52	4	6	7	2	3	2	2
30,000	-44.5	-31	13	14	15	-30	14	15	16	-32	12	14	14	-31	13	15	15	-31	11	15	16	2	2	2	2
20,000	-21.2	-5	16	17	17	-5	16	17	18	-5	16	17	17	-6	15	16	17	-5	16	17	18	1	2	2	1
10,000	-4.6	10	14	15	16	10	14	15	16	8	13	14	14	10	15	16	16	9	14	15	16	1	2	2	2
KANO TO TRIPOLI																						1263 N.MI.			
55,000	-56.5	-71	-15	-11	-12	-70	-13	-11	-11	-74	-17	-15	-14	-73	-16	-14	-13	-72	-15	-13	-12	3	3	3	3
40,000	-56.5	-54	2	5	6	-53	3	6	7	-51	5	7	7	-53	3	5	5	-51	4	5	6	3	4	2	2
30,000	-44.5	-41	4	5	6	-35	9	11	11	-31	14	15	16	-35	10	11	12	-35	9	12	13	2	2	2	2
20,000	-21.2	-13	8	9	10	-10	11	12	13	-5	16	17	18	-8	13	14	14	-9	12	14	15	2	2	2	2
10,000	-4.6	4	8	10	11	7	12	13	14	14	18	19	20	8	13	14	14	8	13	15	16	2	2	2	2
KANO TO TUNIS																						1491 N.MI.			
55,000	-56.5	-70	-13	-11	-10	-68	-12	-10	-9	-72	-16	-14	-13	-71	-15	-13	-12	-70	-14	-11	-10	3	3	1	3
40,000	-56.5	-54	2	5	6	-54	3	6	7	-51	6	7	8	-54	3	4	5	-53	3	5	6	4	4	2	2
30,000	-44.5	-42	3	4	5	-37	8	9	10	-32	13	15	15	-36	9	10	11	-36	8	11	12	2	2	2	2
20,000	-21.2	-15	7	8	9	-12	10	11	12	-6	15	17	17	-9	12	13	14	-10	11	13	14	3	2	2	2
10,000	-4.6	3	7	9	10	6	11	12	13	13	18	19	20	7	12	13	14	7	12	14	16	2	2	2	2
KANO TO ZURICH																						2124 N.MI.			
55,000	-56.5	-66	-9	-7	-6	-65	-8	-6	-5	-68	-11	-9	-8	-68	-11	-9	-8	-67	-10	-8	-6	4	3	3	3
40,000	-56.5	-55	1	4	5	-55	2	5	6	-51	5	7	8	-55	2	4	5	-54	2	5	6	4	4	3	3
30,000	-44.5	-44	1	3	4	-40	5	7	8	-33	11	13	14	-38	7	9	10	-39	6	9	10	3	3	3	3
20,000	-21.2	-17	4	6	7	-14	7	9	10	-7	14	15	16	-11	10	12	12	-12	9	11	13	3	3	2	2
10,000	-4.6	-0	4	7	8	3	8	10	11	11	16	17	18	5	10	11	12	5	9	12	14	3	3	2	2
KANSAS CITY TO VANCOUVER																						1359 N.MI.			
55,000	-56.5	-59	-2	1	2	-57	-0	2	4	-59	-3	-0	1	-61	-5	-2	-1	-59	-2	1	2	5	4	3	4
40,000	-56.5	-56	0	3	7	-57	-0	3	6	-54	2	5	6	-56	0	3	5	-56	1	4	5	7	6	3	5
30,000	-44.5	-50	-5	-3	-2	-47	-3	-0	1	-37	7	9	10	-45	2	4	6	-44	0	4	5	4	3	3	4
20,000	-21.2	-26	-5	-1	2	-21	0	3	5	-10	11	13	14	-17	4	7	9	-19	3	6	8	6	4	3	5
10,000	-4.6	-11	-6	-2	1	-4	0	4	6	8	12	15	16	-0	4	8	10	-2	3	7	9	7	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
KARACHI TO KHARTOUM																									2019 N.MI.
53,000	-56.5	-74	-17	-15	-14	-74	-18	-15	-14	-75	-19	-16	-15	-76	-19	-17	-16	-75	-18	-16	-15	3	3	3	3
40,000	-56.5	-54	3	5	6	-52	4	7	8	-49	7	9	10	-55	3	5	6	-52	4	7	8	3	4	3	3
30,000	-44.5	-36	8	10	11	-33	11	13	14	-27	17	19	20	-32	12	14	15	-32	12	15	16	3	3	2	3
20,000	-21.2	-10	11	13	14	-7	14	16	16	-4	17	19	20	-6	15	16	17	-7	14	16	18	2	2	2	2
10,000	- 4.6	7	11	13	14	10	14	16	17	15	20	21	22	9	13	15	16	10	15	17	18	2	2	2	2
KARACHI TO LAHORE																									552 N.MI.
53,000	-56.5	-69	-12	-10	-8	-67	-11	-8	-6	-72	-16	-12	-11	-70	-14	-11	-10	-70	-13	-10	-8	4	4	5	4
40,000	-56.5	-54	2	6	8	-54	3	6	8	-47	9	12	14	-54	3	6	8	-52	4	9	11	5	5	5	5
30,000	-44.5	-40	5	8	10	-38	7	10	12	-26	18	21	22	-34	10	13	14	-35	10	14	16	5	5	4	4
20,000	-21.2	-15	6	8	9	-10	11	14	15	-2	19	21	22	-9	12	14	16	-9	12	15	17	4	4	3	3
10,000	- 4.6	1	6	8	9	8	13	15	16	15	20	22	23	7	12	14	15	8	13	16	17	3	3	3	3
KARACHI TO LISBON																									3867 N.MI.
53,000	-56.5	-61	-5	-2	-0	-60	-4	-1	0	-65	-9	-6	-5	-64	-7	-5	-3	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-56	1	4	6	-56	1	4	6	-46	8	10	12	-56	1	3	4	-54	3	6	8	5	5	3	4
30,000	-44.5	-46	-2	1	2	-43	1	4	5	-32	13	15	16	-39	5	7	9	-40	4	8	10	4	4	3	4
20,000	-21.2	-21	0	3	4	-17	5	7	8	-7	15	17	18	-13	8	10	11	-14	7	10	12	4	4	3	3
10,000	- 4.6	-5	0	3	4	1	6	8	9	11	15	17	18	3	8	10	11	3	7	11	13	4	4	3	3
KARACHI TO LONDON																									3420 N.MI.
53,000	-56.5	-59	-3	0	2	-58	-1	1	2	-59	-3	-0	1	-61	-5	-2	-1	-59	-3	-0	1	4	4	4	4
40,000	-56.5	-57	-0	3	5	-55	2	5	7	-48	8	11	12	-56	1	4	5	-54	3	7	9	5	5	4	4
30,000	-44.5	-48	-4	-1	0	-44	0	3	4	-34	11	13	15	-41	4	6	7	-42	3	7	9	4	4	4	4
20,000	-21.2	-24	-3	1	2	-18	1	6	8	-6	13	15	16	-15	6	9	10	-16	5	9	11	5	4	3	4
10,000	- 4.6	-8	-4	-0	2	-1	3	6	8	6	12	14	15	1	6	8	10	-0	4	8	10	5	4	3	4
KARACHI TO MADRID																									3595 N.MI.
53,000	-56.5	-61	-4	-1	0	-60	-4	-1	0	-65	-9	-6	-5	-64	-7	-5	-3	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-56	1	4	6	-56	1	4	6	-46	8	11	12	-56	1	3	5	-54	3	6	8	5	5	4	4
30,000	-44.5	-46	-2	1	2	-43	1	4	5	-31	13	15	16	-40	5	7	9	-40	4	8	10	4	4	3	4
20,000	-21.2	-21	0	3	4	-17	5	7	8	-6	15	17	18	-13	8	10	11	-14	7	10	12	4	4	3	3
10,000	- 4.6	-5	-0	2	4	1	5	8	9	11	15	17	18	3	8	10	11	2	7	11	12	4	4	3	3
KARACHI TO MILAN																									1044 N.MI.
53,000	-56.5	-60	-4	-1	1	-59	-1	-0	1	-63	-7	-4	-3	-63	-6	-4	-2	-61	-5	-2	-1	4	4	4	4
40,000	-56.5	-56	1	4	5	-55	1	5	7	-49	9	11	13	-56	1	3	5	-54	3	7	8	5	5	4	4
30,000	-44.5	-47	-3	0	1	-43	1	4	5	-31	13	15	17	-40	5	7	8	-40	4	8	10	4	4	3	4
20,000	-21.2	-22	-1	2	3	-17	4	7	8	-7	15	17	18	-14	7	10	11	-15	6	10	12	4	4	3	3
10,000	- 4.6	-7	-2	1	3	0	5	7	9	10	14	16	17	3	7	10	11	2	6	10	12	5	4	3	4
KARACHI TO MOSCOW																									2270 N.MI.
53,000	-56.5	-60	-3	-0	1	-56	-1	1	3	-59	-3	0	1	-60	-4	-1	0	-59	-3	0	2	4	4	4	4
40,000	-56.5	-56	0	3	5	-54	3	6	8	-47	9	12	13	-54	2	5	6	-53	3	7	9	5	5	4	4
30,000	-44.5	-46	-4	-1	1	-43	2	5	6	-32	13	15	17	-41	4	7	8	-41	4	8	11	4	4	4	4
20,000	-21.2	-24	-3	1	2	-17	5	8	9	-7	14	16	17	-16	6	9	10	-16	5	9	12	5	5	3	4
10,000	- 4.6	-8	-4	-0	2	-1	4	7	8	9	14	16	17	1	5	8	10	0	5	9	11	5	4	3	4
KARACHI TO NEW DELHI																									577 N.MI.
53,000	-56.5	-70	-14	-11	-10	-68	-12	-9	-7	-73	-17	-14	-12	-72	-15	-13	-11	-71	-14	-11	-9	4	4	5	4
40,000	-56.5	-54	2	6	6	-53	3	6	8	-48	9	12	14	-54	3	6	8	-52	4	9	11	5	5	5	5
30,000	-44.5	-38	6	9	11	-37	8	11	13	-26	18	21	22	-34	11	14	15	-34	11	15	17	5	5	4	4
20,000	-21.2	-14	7	9	11	-9	12	14	16	-2	19	21	22	-8	13	15	16	-8	13	16	18	3	4	3	3
10,000	- 4.6	3	7	9	10	9	13	16	17	15	20	21	22	7	12	14	15	8	13	16	18	3	3	2	3
KARACHI TO NICOSIA																									1854 N.MI.
53,000	-56.5	-66	-9	-7	-5	-65	-8	-6	-4	-71	-15	-13	-11	-68	-11	-9	-7	-67	-11	-8	-6	4	4	3	4
40,000	-56.5	-54	2	5	7	-54	3	6	8	-46	10	12	14	-55	2	4	5	-52	4	8	9	4	5	3	4
30,000	-44.5	-43	2	4	6	-40	5	7	8	-26	18	20	21	-37	8	10	11	-36	8	12	14	4	4	3	3
20,000	-21.2	-18	4	6	7	-13	8	10	11	-3	19	21	22	-11	11	12	13	-11	10	14	16	3	3	3	3
10,000	- 4.6	-2	3	6	7	5	9	12	13	15	19	21	22	7	11	13	14	6	11	14	16	4	3	2	3
KARACHI TO PARIS																									3306 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-2	1	2	-61	-4	-2	-0	-62	-5	-3	-1	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	3	5	-55	1	5	7	-48	6	11	12	-56	1	4	5	-54	3	6	8	5	5	4	4
30,000	-44.5	-48	-3	-1	1	-44	1	3	5	-33	12	14	15	-41	4	6	8	-41	3	7	9	4	4	4	4
20,000	-21.2	-23	-2	1	3	-18	4	6	8	-8	13	16	17	-15	7	9	10	-16	5	9	11	5	4	3	4
10,000	- 4.6	-8	-3	0	2	-1	4	7	8	8	13	15	16	2	6	9	10	0	5	9	11	5	4	3	4
KARACHI TO RANGOON																									1690 N.MI.
53,000	-56.5	-75	-18	-16	-15	-72	-15	-13	-11	-76	-20	-17	-15	-76	-19	-17	-15	-75	-19	-15	-13	3	4	4	4
40,000	-56.5	-56	1	4	5	-53	4	7	8	-49	7	10	12	-54	3	6	7	-53	4	7	9	4	4	5	5
30,000	-44.5	-35	9	12	13	-33	11	14	15	-27	17	19	20	-32	13	15	16	-32	13	15	17	4	4	3	3
20,000	-21.2	-9	12	14	15	-7	14	16	17	-3	18	19	20	-6	15	17	18	-6	15	17	18	3	3	2	2
10,000	- 4.6	6	11	13	14	10	14	16	17	13	17	18	19	8	13	14	15	9	14	16	17	3	3	2	2
KARACHI TO RAWALPINDI																									608 N.MI.
53,000	-56.5	-68	-11	-8	-7	-66	-10	-7	-5	-71	-15	-12	-10	-69	-13	-10	-8	-69	-12	-9	-7	4	4	5	4
40,000	-56.5	-54	2	6	8	-54	3	6	8	-47	9	12	14	-54	3	6	8	-52	4	8	11	5	5	5	5
30,000	-44.5	-41	4	7	9	-38	6	9	11	-27	18	21	22	-35	10	12	14	-35	9	14	16	5	5	4	4
20,000	-21.2	-16	5	7	9	-11	11	13	15	-3	19	21	22	-10	12	14	15	-10	11	15	17	4	4	3	3
10,000	- 4.6	0	5	7	8	7	12	14	15	16	20	22	23	7	11	13	14	7	12	15	17	3	3	3	3
KARACHI TO ROME																									2863 N.MI.
53,000	-56.5	-61	-5	-2	-1	-61	-4	-2	-0	-66	-10	-7	-6	-64	-8	-5	-4	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-55	1	4	6	-55	1	5	7	-47	9	12	13	-56	1	3	5	-53	3	7	9	4	5	3	4
30,000	-44.5	-46	-2	1	2	-43	2	4	6	-30	14	17	18	-39	5	8	9	-39	5	9	11	4	4	3	3
20,000	-21.2	-21	0	3	4	-16	5	8	9	-6	16	18	19	-13	8	10	11	-14	7	11	13	4	4	3	3
10,000	- 4.6	-5	-0	2	4	1	6	9	10	11	16	18	19	4	9	11	12	3	7	11	13	4	4	3	3
KARACHI TO SHARJAH																									659 N.MI.
53,000	-56.5	-71	-15	-12	-11	-71	-14	-12	-10	-74	-17	-15	-13	-74	-17	-15	-13	-72	-16	-13	-11	4	4	4	4
40,000	-56.5	-54	3	5	7	-52	4	7	9	-47	9	12	13	-54	3	5	7	-52	5	8	10	4	4	4	4
30,000	-44.5	-38	7	10	11	-35	9	12	13	-26	19	21	22	-35	11	14	15	-33	11	15	17	4	4	3	3
20,000	-21.2	-13	9	11	12	-8	13	15	16	-5	18	20	21	-7	14	16	17	-8	14	16	18	3	3	3	3
10,000	- 4.6	4	8	10	11	10	14	16	17	16	21	22	23	8	13	15	15	9	14	17	18	3	3	2	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
KARACHI TO SINGAPORE																									2557 N.MI.
55,000	-56.5	-79	-22	-20	-19	-76	-19	-17	-16	-77	-21	-18	-17	-79	-22	-20	-19	-78	-21	-19	-17	3	3	4	3
40,000	-56.5	-56	1	3	5	-52	4	7	8	-52	5	7	8	-54	2	5	6	-53	3	6	7	3	3	3	3
30,000	-44.5	-33	12	14	15	-31	13	15	16	-29	16	17	18	-32	13	14	15	-31	13	15	16	3	3	2	2
20,000	-21.2	-7	14	16	17	-6	15	17	18	-4	17	18	19	-6	15	17	18	-6	16	17	18	2	2	2	2
10,000	-4.6	8	13	14	15	10	15	16	17	11	16	17	17	9	13	15	15	10	14	15	16	2	2	1	2
KARACHI TO SYDNEY																									5941 N.MI.
55,000	-56.5	-78	-22	-19	-18	-75	-19	-16	-15	-75	-18	-16	-15	-75	-19	-17	-16	-76	-19	-17	-15	3	3	3	3
40,000	-56.5	-54	2	4	5	-53	4	6	7	-53	4	5	6	-54	3	5	6	-54	3	5	6	3	3	3	3
30,000	-44.5	-33	12	13	14	-33	11	13	14	-33	12	13	14	-34	10	12	13	-33	11	13	14	2	3	3	3
20,000	-21.2	-7	14	16	16	-8	14	15	16	-8	13	14	15	-8	13	14	15	-8	13	15	16	2	2	2	2
10,000	-4.6	9	13	15	15	8	13	14	15	7	12	13	14	7	12	13	14	8	12	14	15	2	2	2	2
KARACHI TO TANANARIVE																									2883 N.MI.
55,000	-56.5	-78	-21	-19	-18	-77	-20	-18	-16	-76	-18	-16	-15	-77	-21	-19	-18	-77	-20	-18	-16	3	4	3	3
40,000	-56.5	-54	3	5	6	-52	5	7	8	-52	5	7	8	-53	4	5	6	-53	4	6	7	3	3	3	3
30,000	-44.5	-31	13	15	16	-31	13	15	15	-30	14	16	16	-32	12	14	15	-31	13	15	16	2	2	2	2
20,000	-21.2	-6	15	56	17	-6	15	17	17	-5	16	18	18	-6	15	16	17	-6	16	17	18	1	2	2	2
10,000	-4.6	9	13	14	15	10	15	16	16	10	15	16	17	9	14	55	15	9	14	15	16	1	2	2	2
KARACHI TO TEHERAN																									3042 N.MI.
55,000	-56.5	-66	-10	-7	-6	-65	-9	-6	-5	-71	-15	-12	-11	-68	-12	-9	-7	-68	-11	-6	-7	4	4	4	4
40,000	-56.5	-54	2	5	7	-54	3	6	8	-47	10	12	14	-54	2	5	6	-52	4	8	10	4	5	4	4
30,000	-44.5	-42	3	6	7	-39	6	8	10	-26	18	20	22	-36	8	11	12	-36	9	13	15	4	4	3	4
20,000	-21.2	-17	4	6	8	-12	9	12	13	-2	19	21	22	-10	11	13	14	-10	11	15	17	4	4	3	4
10,000	-4.6	-1	4	6	8	6	11	13	14	16	20	22	23	7	11	13	14	7	11	15	17	4	3	3	3
KARACHI TO TEL AVIV-JAFFA																									1747 N.MI.
55,000	-56.5	-67	-11	-8	-7	-66	-10	-7	-6	-72	-16	-13	-12	-70	-13	-11	-9	-69	-12	-10	-8	4	4	3	4
40,000	-56.5	-54	2	5	7	-53	3	6	8	-47	10	12	13	-54	2	4	6	-52	4	8	10	4	5	3	3
30,000	-44.5	-42	3	6	7	-39	6	8	10	-26	19	20	21	-36	9	11	12	-35	9	13	15	4	4	3	3
20,000	-21.2	-16	5	7	8	-12	9	11	12	-2	19	21	22	-10	12	13	14	-30	11	15	16	3	3	3	3
10,000	-4.6	-0	5	7	8	6	10	12	14	16	20	22	23	7	12	54	15	7	12	15	17	3	3	2	3
KARACHI TO TRIPOLI																									2848 N.MI.
55,000	-56.5	-66	-9	-7	-5	-64	-8	-5	-4	-71	-14	-12	-11	-64	-11	-9	-7	-67	-11	-8	-6	4	3	3	4
40,000	-56.5	-54	2	5	6	-55	2	5	7	-47	10	12	13	-55	2	4	5	-53	4	7	9	4	5	3	3
30,000	-44.5	-43	1	3	5	-40	4	7	8	-28	17	19	20	-37	7	9	10	-37	7	11	33	4	3	3	3
20,000	-21.2	-18	4	6	7	-14	7	10	11	-4	38	19	20	-11	10	12	13	-13	10	13	15	3	3	3	2
10,000	-4.6	-2	3	5	7	4	8	11	12	14	18	20	21	6	11	13	14	6	10	13	33	3	3	2	3
KARACHI TO TUNIS																									2973 N.MI.
55,000	-56.5	-63	-7	-4	-3	-62	-6	-3	-2	-67	-12	-10	-9	-66	-9	-7	-5	-65	-8	-6	-4	4	3	3	4
40,000	-56.5	-55	1	4	6	-55	1	5	7	-47	9	32	13	-55	1	3	5	-53	3	7	9	4	5	3	3
30,000	-44.5	-45	-0	2	3	-42	3	5	6	-29	16	18	19	-38	6	8	9	-38	6	10	12	4	4	3	3
20,000	-21.2	-19	2	4	6	-15	6	8	10	-5	17	18	19	-12	9	11	12	-13	8	12	14	4	3	3	3
10,000	-4.6	-3	1	4	5	2	7	10	11	12	17	19	19	5	10	12	13	4	9	12	14	4	4	2	3
KEFLAVIK TO LONDON																									3025 N.MI.
55,000	-56.5	-58	-1	3	4	-51	5	8	9	-47	9	12	13	-56	1	4	5	-53	4	7	9	5	4	3	4
40,000	-56.5	-57	-0	4	7	-52	5	9	12	-49	8	12	14	-55	2	6	8	-53	4	8	11	7	7	6	6
10,000	-44.5	-51	-7	-4	-2	-44	-3	-1	1	-43	2	4	6	-46	-1	2	4	-47	-2	1	3	4	4	4	5
20,000	-21.2	-28	-7	-3	-1	-25	-4	-1	1	-17	4	7	8	-21	-0	4	4	-23	-2	2	4	6	5	4	6
10,000	-4.6	-12	-7	-4	-2	-10	-5	-2	-0	-2	3	5	6	-6	-1	2	4	-7	-3	1	3	5	5	3	5
KEFLAVIK TO MONTREAL																									2012 N.MI.
55,000	-56.5	-56	0	4	5	-50	6	9	10	-49	8	10	12	-53	3	6	7	-52	4	7	9	5	4	4	4
40,000	-56.5	-53	3	8	10	-50	6	10	13	-49	7	10	12	-51	5	9	11	-51	5	9	11	6	6	5	6
30,000	-44.5	-52	-8	-5	-3	-49	-5	-2	-0	-43	2	4	6	-47	-2	1	3	-48	-3	1	3	4	4	4	5
20,000	-21.2	-33	-12	-7	-5	-24	-7	-3	-1	-17	4	7	9	-24	-3	1	3	-26	-4	0	3	7	6	4	6
10,000	-4.6	-19	-15	-10	-8	-14	-9	-5	-3	-2	2	5	6	-9	-5	-3	1	-13	-7	-2	0	7	6	4	6
KEFLAVIK TO NEW YORK																									2247 N.MI.
55,000	-56.5	-57	-0	3	5	-52	5	8	9	-51	6	8	10	-55	2	5	6	-53	3	6	8	5	4	4	4
40,000	-56.5	-53	3	7	10	-51	5	9	12	-50	6	9	11	-52	5	8	10	-52	5	8	10	6	6	5	6
30,000	-44.5	-51	-7	-4	-2	-48	-4	-1	0	-42	3	5	7	-46	-1	2	1	-47	-2	1	3	4	4	4	4
20,000	-21.7	-31	-10	-6	-3	-27	-6	-2	0	-16	5	8	10	-22	-1	3	5	-24	-1	2	4	7	6	4	6
10,000	-4.6	-17	-11	-8	-6	-12	-7	-4	-2	-1	4	6	7	-8	-3	1	3	-10	-5	-1	1	7	6	1	6
KEFLAVIK TO OSLO																									957 N.MI.
55,000	-56.5	-58	-2	2	4	-50	6	9	11	-46	11	13	14	-55	2	5	6	-52	4	8	10	5	4	3	4
40,000	-56.5	-58	-1	3	6	-50	6	11	13	-47	9	13	15	-54	3	7	9	-52	4	9	11	6	7	5	6
30,000	-44.5	-53	-9	-6	-4	-49	-5	-2	-0	-44	0	3	5	-47	-1	0	2	-48	-4	-0	2	4	4	4	5
20,000	-21.2	-31	-10	-6	-4	-28	-7	-3	-1	-19	2	5	7	-23	-2	2	4	-25	-4	0	2	6	5	4	6
10,000	-4.6	-14	-10	-6	-5	-12	-7	-4	-2	-3	2	4	5	-8	-3	0	2	-9	-5	-1	1	5	5	3	5
KEFLAVIK TO PRESTWICK																									741 N.MI.
55,000	-56.5	-58	-1	3	5	-50	6	9	10	-46	10	12	14	-55	2	4	6	-52	4	8	10	5	4	3	4
40,000	-56.5	-56	0	5	7	-51	6	10	13	-48	8	12	14	-54	3	7	9	-52	4	9	11	7	7	6	6
30,000	-44.5	-52	-7	-4	-3	-48	-3	-1	1	-44	3	4	5	-46	-2	1	3	-47	-3	1	3	4	4	4	5
20,000	-21.2	-29	-8	-4	-1	-26	-5	-2	0	-18	3	6	7	-22	-1	1	5	-24	-3	1	3	6	5	4	6
10,000	-4.6	-13	-8	-5	-3	-11	-6	-3	-1	-3	2	4	6	-6	-2	1	3	-8	-3	-0	2	5	5	3	5
KEFLAVIK TO SHANNON																									799 N.MI.
55,000	-56.5	-57	-1	3	5	-51	6	8	10	-47	9	12	13	-55	1	4	6	-53	4	7	9	5	4	4	4
40,000	-56.5	-56	0	5	8	-51	5	10	12	-49	8	12	14	-54	2	7	9	-53	4	9	11	7	7	6	6
30,000	-44.5	-51	-7	-4	-2	-48	-3	-0	1	-43	1	4	6	-46	-1	2	4	-47	-2	1	3	4	4	4	5
20,000	-21.2	-28	-7	-3	-1	-26	-5	-1	1	-17	4	6	8	-22	-0	3	5	-23	-2	2	4	6	5	4	6
10,000	-4.6	-12	-7	-4	-2	-10	-5	-2	-1	-2	3	5	6	-6	-1	2	4	-8	-3	0	2	5	5	3	5
KEFLAVIK TO SONDRESTROMFJORD																									716 N.MI.
55,000	-56.5	-58	-2	2	5	-47	9	12	14	-44	12	14	15	-52	4	7	8	-51	6	9	11	6	4	3	4
40,000	-56.5	-56	1	5	7	-48	8	12	15	-46	11	14	15	-50	6	10	12	-50	6	10	13	7	6	5	5
30,000	-44.5	-55	-10	-7	-6	-50	-5	-2	-0	-45	-1	2	3	-49	-5	-1	0	-50	-5	-2	0	4	5	4	5
20,000	-21.2	-34	-13	-9	-7	-31	-10	-6	-4	-21	0	3	5	-27	-6	-2	-0	-28	-7	-3	-0	6	6	4	6
10,000	-4.6	-19	-14	-11	-9	-16	-12	-8	-6	-6	-1	1	3	-13	-8	-5	-3	-13	-9	-5	-3	5	6	4	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
KEFLAVIK TO STOCKHOLM																						1156 N.MI.			
55,000	-56.5	-58	-2	2	4	-50	6	9	11	-46	11	13	14	-55	2	5	6	-52	4	8	9	5	4	3	4
40,000	-56.5	-58	-1	3	5	-51	6	10	13	-48	9	13	14	-54	2	7	9	-53	4	9	13	6	7	5	6
30,000	-44.5	-54	-9	-6	-5	-50	-5	-2	-1	-44	3	3	5	-47	-3	0	2	-49	-4	-0	2	4	4	4	5
20,000	-21.2	-31	-10	-4	-4	-28	-7	-3	-1	-39	3	5	2	-23	-2	2	4	-25	-4	-0	2	6	5	4	6
10,000	-4.6	-15	-10	-7	-5	-12	-7	-4	-2	-3	2	4	5	-8	-3	0	2	-9	-5	-1	1	5	5	3	5
KEFLAVIK TO WINNIPEG																						2420 N.MI.			
55,000	-56.5	-57	-0	4	6	-49	7	10	12	-47	10	12	13	-55	4	4	7	-51	5	8	10	6	4	3	3
40,000	-56.5	-55	2	4	8	-50	7	11	13	-48	8	12	13	-51	6	9	13	-51	6	10	12	6	6	5	5
30,000	-44.5	-55	-10	-8	-6	-50	-6	-3	-1	-44	1	3	5	-49	-4	-1	3	-50	-5	-1	1	6	4	5	5
20,000	-21.2	-36	-15	-11	-9	-31	-9	-5	-3	-19	2	5	7	-27	-5	-3	1	-20	-7	-2	0	4	4	4	5
10,000	-4.6	-23	-18	-14	-12	-16	-12	-8	-5	-4	1	3	5	-12	-8	-3	-1	-14	-9	-5	-2	6	6	4	6
KEFLAVIK TO ZURICH																						1420 N.MI.			
55,000	-56.5	-57	-1	3	5	-52	5	7	9	-48	9	11	12	-56	0	3	5	-53	3	7	8	5	4	3	4
40,000	-56.5	-57	-1	3	4	-53	4	8	11	-49	7	11	13	-55	3	5	7	-54	3	7	10	6	7	5	6
30,000	-44.5	-51	-7	-4	-2	-48	-3	-1	1	-42	2	5	6	-45	-1	2	4	-47	-2	1	3	4	4	4	4
20,000	-21.2	-28	-7	-3	-3	-25	-4	-0	2	-16	5	7	9	-21	1	4	6	-22	-1	3	5	6	5	4	5
10,000	-4.6	-12	-7	-4	-2	-9	-4	-1	0	-1	4	6	7	-5	-0	3	5	-7	-2	1	3	5	5	3	5
KETCHIKAN TO SEATTLE																						571 N.MI.			
55,000	-56.5	-55	1	5	7	-52	4	7	8	-51	5	7	9	-54	1	3	5	-54	3	6	7	5	4	3	4
40,000	-56.5	-55	1	4	8	-54	3	7	9	-52	4	8	9	-54	2	6	7	-54	3	6	8	6	6	5	5
30,000	-44.5	-51	-6	-3	-2	-48	-4	-2	-0	-42	3	5	6	-45	-3	2	4	-47	-2	1	3	4	3	4	4
20,000	-21.2	-28	-7	-3	-0	-25	-4	-0	2	-15	6	9	10	-22	-0	3	5	-22	-3	3	5	7	5	4	5
10,000	-4.6	-13	-8	-3	-1	-9	-5	-2	-0	3	5	8	9	-5	-1	2	4	-7	-2	2	4	7	4	3	5
KHARTOUM TO KISUMU																						950 N.MI.			
55,000	-56.5	-78	-21	-19	-18	-78	-21	-19	-18	-76	-20	-18	-17	-78	-21	-19	-18	-77	-21	-19	-18	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-53	4	5	6	-52	5	6	6	-52	4	6	7	2	3	2	2
30,000	-44.5	-33	12	13	14	-30	15	16	16	-33	14	15	16	-30	16	15	16	-33	16	15	16	2	2	2	2
20,000	-21.2	-5	14	17	18	-5	16	17	18	-5	16	17	18	-6	16	16	17	-5	16	17	18	3	2	1	1
10,000	-4.6	10	15	14	17	10	15	16	16	11	15	16	17	10	15	16	16	10	15	16	17	2	2	1	1
KHARTOUM TO LONDON																						2469 N.MI.			
55,000	-56.5	-63	-7	-4	-3	-62	-4	-3	-2	-65	-8	-6	-5	-66	-9	-7	-4	-66	-8	-5	-4	4	3	3	3
40,000	-56.5	-56	1	4	5	-54	1	4	4	-50	7	9	10	-55	3	3	5	-54	2	5	7	4	3	3	3
30,000	-44.5	-45	-1	1	2	-42	3	5	6	-33	11	13	14	-39	6	8	9	-40	5	8	10	4	3	3	3
20,000	-21.2	-19	2	4	6	-14	5	8	9	-8	13	15	16	-13	9	10	11	-14	7	10	12	3	3	3	3
10,000	-4.6	-3	2	4	6	1	6	8	9	9	13	15	16	4	8	10	13	3	7	10	12	4	3	2	3
KHARTOUM TO MADRID																						2398 N.MI.			
55,000	-56.5	-67	-10	-8	-7	-65	-9	-7	-4	-70	-13	-11	-10	-69	-12	-10	-9	-68	-11	-8	-7	3	3	3	3
40,000	-56.5	-55	1	4	4	-55	2	4	6	-50	6	8	9	-55	2	4	5	-54	3	5	7	4	4	2	3
30,000	-44.5	-43	1	3	4	-39	5	7	8	-31	13	15	16	-37	7	9	10	-38	7	10	11	3	3	3	3
20,000	-21.2	-16	5	7	8	-13	8	10	11	-4	15	16	17	-13	11	12	13	-12	10	12	13	3	3	2	2
10,000	-4.6	1	5	7	9	4	9	11	12	12	16	18	19	6	11	12	13	6	10	13	14	3	3	2	2
KHARTOUM TO NAIROBI																						1040 N.MI.			
55,000	-56.5	-78	-21	-20	-19	-78	-21	-19	-18	-76	-20	-18	-17	-78	-21	-19	-18	-77	-21	-19	-18	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-53	4	5	6	-52	5	6	6	-52	4	6	7	2	3	2	2
30,000	-44.5	-32	12	13	14	-30	15	16	16	-33	14	15	16	-30	14	15	16	-31	14	15	16	2	2	2	2
20,000	-21.2	-5	14	17	18	-5	16	17	18	-5	16	17	18	-6	14	16	17	-5	16	17	18	1	2	1	1
10,000	-4.6	10	15	14	17	10	15	14	16	11	15	16	17	10	15	16	16	10	15	16	17	2	2	1	1
KHARTOUM TO PARIS																						2486 N.MI.			
51,000	-56.5	-66	-8	-5	-4	-63	-6	-4	-3	-66	-10	-8	-6	-66	-10	-8	-7	-65	-8	-6	-4	4	3	3	3
40,000	-56.5	-56	1	4	5	-56	1	4	5	-50	7	9	10	-55	1	3	5	-54	2	5	7	4	3	3	3
30,000	-44.5	-45	-0	2	3	-41	3	5	7	-33	12	14	15	-38	6	8	9	-39	5	8	10	3	3	3	3
20,000	-21.2	-19	2	5	6	-15	6	8	9	-7	14	15	16	-12	9	11	12	-13	8	11	12	4	3	2	3
10,000	-4.6	-2	3	5	6	2	6	8	10	9	14	16	17	6	9	11	12	3	8	11	12	4	3	2	3
KHARTOUM TO ROME																						1840 N.MI.			
55,000	-56.5	-66	-10	-8	-6	-65	-9	-7	-5	-70	-13	-11	-10	-69	-12	-10	-9	-67	-11	-9	-7	3	3	3	3
40,000	-56.5	-55	2	4	4	-55	1	4	4	-49	7	9	10	-55	2	4	5	-53	3	4	7	4	4	2	3
30,000	-44.5	-44	1	3	4	-39	5	7	8	-31	14	16	17	-37	7	9	10	-38	7	10	12	3	3	3	3
20,000	-21.2	-17	5	7	8	-13	8	10	11	-6	15	17	18	-11	10	12	13	-12	10	12	14	3	3	3	3
10,000	-4.6	-0	4	7	8	3	8	10	11	11	16	17	18	6	11	12	13	5	10	12	14	3	3	2	2
KHARTOUM TO STANLEYVILLE																						1006 N.MI.			
55,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-18	-76	-20	-18	-17	-77	-21	-19	-18	-77	-21	-19	-18	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-53	4	5	6	-52	5	4	7	-52	4	5	6	2	3	2	2
30,000	-44.5	-13	13	13	13	-30	14	16	16	-31	14	15	16	-30	14	15	14	-31	14	15	16	2	2	2	2
20,000	-21.2	-5	14	17	17	-5	14	18	18	-5	16	17	18	-6	16	16	17	-5	16	17	18	2	2	1	1
10,000	-4.6	10	15	16	17	10	15	16	17	10	15	16	14	10	15	14	16	10	15	16	16	2	2	1	1
KHARTOUM TO TEHERAN																						1569 N.MI.			
55,000	-56.5	-69	-13	-11	-10	-68	-12	-10	-9	-73	-17	-15	-14	-71	-15	-13	-11	-71	-14	-12	-10	3	3	3	3
40,000	-56.5	-54	3	5	6	-54	3	6	7	-48	9	10	11	-54	3	4	5	-52	4	7	8	3	4	3	3
30,000	-44.5	-41	4	6	7	-37	8	10	11	-27	18	19	20	-35	9	11	12	-35	10	13	14	3	3	2	3
20,000	-21.2	-16	7	9	10	-11	10	11	12	-3	18	20	21	-9	12	14	15	-9	12	15	16	3	3	2	2
10,000	-4.6	2	7	9	10	6	10	12	13	15	20	21	22	8	12	14	15	8	12	15	17	3	3	2	2
KHARTOUM TO TEL AVIV-JAFFA																						992 N.MI.			
55,000	-56.5	-71	-14	-12	-11	-70	-13	-11	-10	-76	-17	-16	-15	-73	-16	-14	-13	-72	-15	-13	-12	3	3	3	3
40,000	-56.5	-54	3	5	4	-54	3	5	7	-49	8	9	10	-54	3	4	5	-52	4	6	7	3	4	2	2
30,000	-44.5	-40	4	6	7	-36	9	10	11	-27	17	19	19	-34	10	12	12	-35	10	13	14	2	2	2	2
20,000	-21.2	-13	8	10	11	-11	11	12	13	-4	17	19	20	-8	13	14	15	-9	12	15	16	3	2	2	2
10,000	-4.6	4	8	10	11	6	11	13	14	14	19	20	20	8	13	14	15	8	13	15	16	3	3	2	2
KHARTOUM TO TRIPOLI																						1671 N.MI.			
55,000	-56.5	-70	-14	-12	-11	-69	-12	-10	-10	-73	-17	-15	-14	-72	-16	-14	-13	-71	-15	-12	-11	3	3	3	3
40,000	-56.5	-54	3	5	6	-54	3	5	6	-49	7	8	9	-54	3	4	5	-53	4	6	7	3	4	2	2
30,000	-44.5	-41	3	5	6	-36	8	10	11	-29	15	17	18	-35	9	11	12	-35	9	12	13	2	2	2	2
20,000	-21.2	-16	8	9	10	-11	10	12	13	-5	17	18	19	-9	12	14	14	-9	12	14	15	3	2	2	2
10,000	-4.6	3	8	10	11	6	11	13	13	13	18	19	19	8	13	14	14	8	12	14	16	3	3	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
KHARTOUM TO WADI HALFA																									381 N.MI.
55,000	-56.5	-75	-18	-16	-15	-74	-17	-16	-15	-76	-19	-17	-16	-77	-20	-18	-17	-75	-19	-17	-16	3	3	3	3
40,000	-56.5	-54	5	4	5	-53	4	6	7	-51	6	7	8	-53	4	5	6	-52	4	6	7	3	3	2	2
30,000	-44.5	-37	7	9	9	-33	12	13	14	-29	16	17	18	-32	12	13	14	-33	12	14	15	2	2	2	2
20,000	-21.2	-10	12	13	14	-8	13	15	15	-6	17	18	19	-7	15	16	16	-7	14	16	17	2	2	2	1
10,000	- 4.6	7	12	14	15	9	14	15	16	13	18	19	19	10	14	15	16	10	14	16	17	3	2	2	2
KHARTOUM TO ZURICH																									2252 N.MI.
55,000	-56.5	-64	-8	-6	-4	-63	-7	-5	-3	-67	-10	-8	-7	-67	-10	-8	-7	-65	-9	-6	-5	4	3	3	3
40,000	-56.5	-55	1	4	5	-56	1	4	5	-49	7	9	10	-55	1	3	4	-54	3	5	7	4	4	3	3
30,000	-44.5	-45	-0	2	3	-41	4	6	7	-32	13	14	15	-38	6	8	9	-39	6	9	11	3	3	3	3
20,000	-21.2	-18	3	5	6	-15	6	8	10	-7	14	16	17	-12	9	11	12	-13	8	11	12	3	3	2	2
10,000	- 4.6	-2	3	5	6	2	6	9	10	10	14	16	17	5	9	11	12	4	8	11	13	4	3	2	3
KINGSTON TO LA PAZ																									2120 N.MI.
55,000	-56.5	-78	-21	-19	-18	-77	-20	-19	-18	-73	-16	-14	-13	-76	-19	-17	-16	-76	-19	-17	-15	3	3	3	3
40,000	-56.5	-54	3	4	6	-52	5	6	7	-54	2	4	4	-54	3	4	5	-53	3	5	6	3	3	2	2
30,000	-44.5	-32	12	13	14	-31	14	15	16	-32	12	13	14	-31	13	15	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	17	18	18	-8	13	14	15	-6	15	16	17	-6	15	17	17	2	2	2	2
10,000	- 4.6	9	14	15	16	9	14	15	16	9	13	14	15	10	14	15	16	9	14	15	16	2	2	2	2
KINGSTON TO LIMA																									1802 N.MI.
55,000	-56.5	-78	-21	-19	-18	-77	-21	-19	-18	-73	-17	-15	-14	-77	-20	-18	-11	-76	-20	-17	-16	3	3	3	3
40,000	-56.5	-54	3	5	5	-52	4	6	7	-55	2	3	4	-54	2	4	4	-54	3	5	6	3	3	2	2
30,000	-44.5	-33	12	13	14	-31	14	15	16	-32	12	13	14	-31	13	15	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	16	18	18	-7	14	15	15	-6	16	17	17	-6	15	17	18	2	2	1	1
10,000	- 4.6	9	14	15	16	9	14	15	16	9	13	15	15	10	14	15	16	9	14	15	16	2	2	2	1
KINGSTON TO LISBON																									3690 N.MI.
55,000	-56.5	-67	-11	-8	-7	-66	-9	-7	-6	-66	-9	-7	-7	-69	-12	-10	-9	-67	-10	-8	-7	4	3	3	3
40,000	-56.5	-57	-1	2	4	-57	-1	2	3	-55	1	3	4	-56	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	3	5	6	-40	5	6	7	-55	9	11	11	-56	8	10	11	-58	6	8	9	3	3	2	4
20,000	-21.2	-14	7	9	10	-13	8	10	11	-8	13	14	15	-10	12	13	14	-11	10	12	13	3	3	2	3
10,000	- 4.6	2	6	9	10	2	7	9	10	7	12	13	14	6	10	12	13	4	9	11	12	3	3	2	2
KINGSTON TO LONDON																									4057 N.MI.
55,000	-56.5	-64	-7	-5	-4	-61	-5	-3	-1	-60	-4	-2	-1	-65	-8	-5	-4	-65	-6	-4	-2	4	3	3	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-55	2	4	5	-55	1	4	5	-56	1	3	5	5	5	3	4
30,000	-44.5	-44	0	3	4	-43	2	4	5	-37	7	9	11	-37	5	8	9	-41	4	7	8	3	3	3	3
20,000	-21.2	-18	3	6	8	-17	5	7	9	-10	11	13	14	-13	8	11	12	-14	7	9	11	4	4	3	4
10,000	- 4.6	-3	2	5	6	-1	4	6	7	5	9	11	12	2	7	9	10	1	5	8	9	4	4	2	3
KINGSTON TO LOS ANGELES																									2421 N.MI.
55,000	-56.5	-71	-15	-13	-12	-69	-13	-11	-10	-71	-14	-13	-12	-74	-18	-15	-14	-75	-15	-12	-11	3	3	2	3
40,000	-56.5	-56	0	3	4	-56	0	2	4	-55	1	2	3	-55	2	3	4	-56	1	3	4	4	3	2	2
30,000	-44.5	-40	5	6	7	-39	6	7	8	-33	12	13	13	-35	10	11	12	-37	8	10	11	2	2	2	2
20,000	-21.2	-12	9	11	12	-11	10	12	13	-6	15	16	16	-8	13	15	16	-9	12	13	14	3	3	1	2
10,000	- 4.6	4	8	11	12	8	11	13	14	11	15	16	17	8	13	14	15	7	12	14	14	3	3	1	2
KINGSTON TO MADRID																									3952 N.MI.
55,000	-56.5	-66	-10	-7	-6	-64	-8	-6	-4	-65	-8	-6	-5	-68	-11	-9	-8	-66	-9	-7	-5	4	3	3	3
40,000	-56.5	-57	-1	2	4	-58	-1	2	3	-55	1	3	4	-56	1	3	4	-56	0	2	3	5	4	3	3
30,000	-44.5	-42	2	4	5	-41	4	6	7	-36	9	10	11	-37	8	10	11	-39	6	8	9	5	4	3	3
20,000	-21.2	-15	5	8	9	-14	7	10	11	-9	12	14	15	-10	13	13	14	-12	9	11	12	3	3	2	3
10,000	- 4.6	1	6	8	9	2	6	8	10	7	12	13	14	5	10	11	12	4	8	10	11	3	3	2	3
KINGSTON TO MEXICO CITY																									1270 N.MI.
55,000	-56.5	-77	-20	-18	-17	-75	-19	-17	-16	-73	-17	-15	-15	-78	-21	-19	-18	-76	-19	-17	-16	3	3	2	3
40,000	-56.5	-55	1	3	4	-54	2	3	4	-56	0	1	2	-54	2	4	4	-55	2	3	4	2	2	1	2
30,000	-44.5	-36	9	10	10	-35	10	11	12	-31	12	13	13	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	13	15	16	-7	15	16	17	-6	15	15	16	-6	15	16	17	-7	15	16	16	2	2	1	1
10,000	- 4.6	8	12	14	14	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	15	2	2	1	1
KINGSTON TO MIAMI																									511 N.MI.
55,000	-56.5	-75	-19	-17	-16	-74	-17	-15	-14	-72	-15	-14	-13	-75	-20	-18	-17	-74	-18	-16	-15	3	3	2	3
40,000	-56.5	-55	1	3	4	-54	2	3	4	-56	0	1	2	-54	2	3	4	-55	1	3	4	2	2	1	2
30,000	-44.5	-37	8	9	10	-35	9	11	11	-31	11	12	13	-33	12	13	14	-34	10	12	13	2	2	1	2
20,000	-21.2	-9	13	14	15	-8	13	15	15	-7	15	15	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	- 4.6	7	51	13	13	7	12	13	14	9	13	14	14	9	13	14	15	8	12	13	14	2	2	1	1
KINGSTON TO MONTEGU BAY																									73 N.MI.
55,000	-56.5	-77	-20	-18	-17	-76	-19	-17	-16	-72	-16	-15	-14	-77	-21	-19	-18	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	2	4	5	-54	3	4	5	-56	0	1	2	-54	3	4	4	-54	2	3	4	2	2	1	2
30,000	-44.5	-35	9	11	11	-34	11	12	13	-33	11	12	13	-32	12	14	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	14	15	16	-7	15	16	17	-7	15	15	16	-6	15	16	17	-7	15	16	16	2	2	1	1
10,000	- 4.6	7	12	13	14	8	13	14	15	9	14	14	15	9	14	15	15	8	13	14	15	2	2	1	1
KINGSTON TO MONTREAL																									1659 N.MI.
51,000	-56.5	-68	-12	-10	-8	-66	-10	-7	-6	-67	-10	-8	-8	-70	-13	-11	-10	-68	-11	-9	-7	3	3	3	4
40,000	-56.5	-56	0	3	4	-56	0	3	4	-56	1	2	3	-55	2	4	5	-56	1	3	4	4	4	2	3
30,000	-44.5	-42	3	5	6	-40	4	6	7	-34	10	11	12	-37	8	10	11	-38	6	9	10	3	3	2	3
20,000	-21.2	-15	6	9	10	-14	8	10	11	-8	13	15	15	-10	11	13	14	-12	10	12	13	3	3	2	3
10,000	- 4.6	-1	4	7	8	1	6	8	10	7	12	13	14	5	10	12	13	5	8	10	11	4	3	2	3
KINGSTON TO NASSAU																									429 N.MI.
55,000	-56.5	-76	-19	-17	-16	-74	-17	-16	-15	-72	-15	-14	-13	-76	-20	-18	-17	-74	-18	-16	-15	3	3	2	3
40,000	-56.5	-55	2	3	4	-54	2	3	4	-56	0	1	2	-54	2	4	4	-55	2	3	4	2	2	1	2
30,000	-44.5	-36	8	9	10	-35	10	11	11	-33	11	12	13	-33	12	13	14	-34	10	12	13	2	2	1	2
20,000	-21.2	-9	13	14	15	-8	14	15	16	-7	15	15	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	- 4.6	7	11	13	13	7	12	13	14	9	13	14	14	9	13	14	15	8	12	14	14	2	2	1	1
KINGSTON TO NEW ORLEANS																									1017 N.MI.
55,000	-56.5	-74	-18	-16	-15	-72	-16	-14	-13	-71	-15	-14	-13	-76	-19	-17	-16	-73	-17	-15	-14	3	3	2	3
40,000	-56.5	-56	1	2	3	-55	1	3	4	-56	0	1	2	-55	2	3	4	-55	1	3	3	2	2	1	2
30,000	-44.5	-37	7	8	9	-36	8	10	10	-33	12	12	13	-33	11	13	13	-35	9	11	12	2	2	1	2
20,000	-21.2	-10	12	13	14	-9	12	14	15	-7	15	15	16	-7	15	16	16	-8	13	15	16	2	2	1	2
10,000	- 4.6	6	10	12	13	7	11	13	14	9	14	14	15	9	13	14	15	8	12	13	14	2	3	1	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50*	050	075	085	APRIL 50	050	075	085	JULY 50	050	075	085	OCTOBER 50	050	075	085	ANNUAL 50	050	075	085	STANDARD DEVIATION JAN	APR	JUL	OCT
KINGSTON TO NEW YORK																									1371 N.MI.
55,000	-56.5	-70	-14	-12	-11	-68	-12	-9	-8	-68	-12	-10	-9	-72	-15	-13	-12	-70	-13	-11	-9	3	3	2	3
40,000	-56.5	-56	0	2	4	-57	-0	2	3	-56	1	2	2	-55	2	3	4	-56	1	3	4	3	3	2	3
30,000	-44.5	-40	4	6	7	-39	6	7	8	-34	11	12	12	-35	9	11	12	-37	7	9	10	3	3	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-7	14	15	16	-9	13	14	15	-30	11	13	14	3	3	2	2
10,000	-4.6	2	6	9	10	3	8	10	11	8	12	13	14	6	33	13	14	5	9	11	32	3	3	1	2
KINGSTON TO PANAMA CITY																									552 N.MI.
55,000	-56.5	-77	-21	-19	-18	-77	-20	-18	-17	-73	-17	-15	-14	-78	-21	-19	-18	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-52	4	5	6	-56	1	2	3	-54	3	4	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-34	11	12	13	-32	12	14	14	-33	12	13	13	-32	13	14	14	-33	12	13	14	2	2	2	1
20,000	-21.2	-7	15	16	17	-5	16	17	18	-7	14	15	16	-6	16	17	17	-6	15	16	17	2	2	1	1
10,000	-4.6	8	13	14	15	9	13	15	15	9	14	15	15	10	14	15	16	9	14	15	15	2	2	1	1
KINGSTON TO QUITO																									3089 N.MI.
55,000	-56.5	-78	-21	-20	-19	-77	-21	-19	-18	-74	-17	-15	-15	-78	-21	-19	-18	-77	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-52	4	6	7	-55	1	3	3	-54	3	4	4	-54	3	5	5	2	2	2	2
30,000	-44.5	-33	11	13	13	-31	13	15	15	-33	12	13	14	-31	13	14	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-6	16	17	17	-5	16	18	18	-7	14	15	16	-6	16	17	17	-6	15	17	17	2	2	1	1
10,000	-4.6	9	11	15	15	9	14	15	16	9	14	15	15	10	15	16	16	9	14	15	16	2	2	1	1
KINGSTON TO PORT AU PRINCE																									256 N.MI.
55,000	-56.5	-77	-20	-18	-17	-76	-19	-18	-17	-72	-18	-15	-14	-77	-20	-19	-17	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	2	4	5	-54	3	4	5	-56	0	2	2	-54	3	4	4	-54	2	3	4	2	2	2	2
30,000	-44.5	-35	9	11	11	-34	11	12	13	-33	11	12	13	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	14	15	16	-7	15	16	16	-7	14	15	16	-6	15	16	17	-7	14	16	16	2	2	1	1
10,000	-4.6	7	12	11	14	8	13	14	15	9	14	14	15	9	14	15	15	8	13	14	15	2	2	1	1
KINGSTON TO RIO DE JANEIRO																									3138 N.MI.
55,000	-56.5	-77	-21	-19	-18	-76	-20	-18	-17	-71	-15	-13	-12	-75	-18	-16	-15	-75	-18	-16	-14	3	3	3	1
40,000	-56.5	-53	3	5	6	-52	5	7	8	-54	3	4	5	-54	3	4	5	-53	3	6	7	3	3	2	2
30,000	-44.5	-32	12	14	14	-11	14	15	16	-33	12	13	14	-31	13	15	16	-12	13	14	15	2	2	2	2
20,000	-21.2	-5	16	18	18	-5	16	17	18	-6	13	14	15	-6	15	16	17	-6	15	17	18	2	2	2	2
10,000	-4.6	9	14	15	16	10	14	16	16	8	12	14	14	10	14	16	16	9	14	15	16	2	2	2	2
KINGSTON TO SAN FRANCISCO																									2661 N.MI.
55,000	-56.5	-70	-13	-11	-10	-68	-11	-9	-8	-70	-13	-12	-11	-72	-16	-14	-13	-70	-13	-11	-9	3	3	2	3
40,000	-56.5	-56	0	3	4	-57	-0	2	3	-55	1	3	3	-55	1	3	4	-56	1	3	4	4	3	2	3
30,000	-44.5	-41	3	5	6	-40	5	6	7	-33	11	12	13	-36	9	10	11	-37	7	9	10	2	2	2	3
20,000	-21.2	-14	7	10	11	-12	9	11	12	-6	15	16	16	-9	12	14	15	-10	11	13	14	4	3	1	1
10,000	-4.6	2	7	10	11	5	10	12	13	11	15	16	17	7	12	14	15	6	11	13	14	4	4	1	3
KINGSTON TO SAN JUAN																									615 N.MI.
55,000	-56.5	-76	-20	-18	-17	-76	-19	-18	-17	-72	-16	-14	-14	-77	-20	-18	-17	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	1	4	5	-54	2	4	5	-56	0	2	2	-54	3	4	4	-54	2	3	4	3	2	2	2
30,000	-44.5	-35	9	11	11	-34	11	12	13	-33	11	12	12	-32	12	13	14	-34	11	12	33	2	2	1	2
20,000	-21.2	-8	13	15	15	-7	14	16	16	-7	14	15	16	-6	15	16	17	-7	14	16	16	2	2	1	1
10,000	-4.6	7	12	13	14	8	11	14	15	9	13	14	15	9	14	14	15	8	13	14	15	2	2	1	1
KINGSTON TO SANTA MARIA																									2035 N.MI.
55,000	-56.5	-69	-11	-11	-9	-68	-11	-9	-8	-67	-11	-9	-8	-71	-14	-12	-11	-69	-12	-10	-9	3	3	2	3
40,000	-56.5	-57	-0	1	4	-57	-1	2	3	-55	1	2	3	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-41	4	6	7	-39	6	7	8	-35	9	11	12	-35	9	11	12	-37	7	9	10	3	2	2	3
20,000	-21.2	-15	8	10	11	-12	9	11	12	-8	13	15	15	-9	13	14	15	-10	11	13	14	3	3	2	2
10,000	-4.6	1	8	10	11	3	8	10	11	7	12	13	14	7	11	13	14	5	10	11	12	3	3	2	2
KINGSTON TO TORONTO																									1552 N.MI.
55,000	-56.5	-69	-13	-10	-9	-67	-10	-8	-7	-68	-11	-9	-8	-71	-14	-12	-11	-69	-12	-10	-8	3	3	3	4
40,000	-56.5	-57	-0	2	4	-56	0	3	4	-56	1	2	3	-55	2	4	5	-56	1	1	4	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	5	7	7	-34	10	12	12	-36	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	10	-13	8	11	12	-8	14	15	15	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	-4.A	0	5	7	9	2	7	9	10	8	12	13	14	6	10	12	13	4	9	10	11	4	3	2	3
KINGSTON TO TRINIDAD																									999 N.MI.
55,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-18	-71	-16	-15	-14	-77	-21	-19	-18	-76	-20	-18	-16	3	3	2	3
40,000	-56.5	-54	3	4	5	-53	3	5	6	-56	1	2	3	-54	3	4	4	-54	2	4	5	3	2	2	2
30,000	-44.5	-34	11	12	13	-32	12	14	14	-33	11	12	13	-32	13	14	14	-33	12	13	14	2	2	2	1
20,000	-21.2	-7	14	16	16	-6	15	16	17	-7	14	15	16	-6	16	17	17	-6	15	16	17	2	2	1	1
10,000	-4.6	8	13	14	15	9	13	15	15	9	14	15	15	9	14	15	15	9	13	14	15	2	2	1	1
KISUMU TO SALISBURY																									1092 N.MI.
55,000	-56.5	-77	-21	-18	-17	-77	-20	-18	-16	-72	-16	-14	-13	-75	-18	-17	-15	-75	-19	-16	-15	3	4	3	3
40,000	-56.5	-52	4	6	7	-52	5	7	8	-52	5	6	7	-52	4	6	7	-52	5	7	8	3	3	2	2
30,000	-44.5	-30	14	16	16	-31	14	15	16	-33	12	13	14	-31	13	15	15	-11	13	15	16	2	2	2	2
20,000	-21.2	-5	17	17	18	-5	16	17	18	-6	16	17	17	-6	15	18	17	-5	16	17	17	1	2	2	2
10,000	-4.6	10	14	15	16	9	14	15	15	7	12	13	14	10	14	16	16	9	14	15	15	1	2	2	2
KODIAK TO SEATTLE																									1267 N.MI.
55,000	-56.5	-53	3	7	9	-52	5	8	9	-50	6	9	10	-54	3	6	7	-52	4	7	8	5	4	3	4
40,000	-56.5	-54	2	7	9	-53	4	8	10	-52	5	8	10	-53	4	7	9	-53	4	7	9	7	6	5	5
30,000	-44.5	-50	-6	-3	-2	-49	-4	-2	-1	-43	2	4	6	-46	-2	1	3	-47	-2	1	3	4	3	4	4
20,000	-21.2	-28	-7	-3	-1	-27	-5	-2	0	-35	6	8	10	-23	-2	1	3	-23	-2	2	4	6	5	4	5
10,000	-4.6	-12	-8	-4	-1	-11	-7	-4	-2	-0	4	7	8	-7	-2	1	2	-8	-3	1	3	A	4	3	5
KUALA LUMPUR TO SINGAPORE																									173 N.MI.
55,000	-56.5	-82	-26	-24	-23	-80	-23	-22	-21	-78	-22	-20	-19	-80	-24	-22	-21	-80	-24	-22	-20	3	3	3	3
40,000	-56.5	-55	2	3	4	-51	5	6	7	-54	2	1	4	-54	2	3	4	-54	1	4	5	2	2	1	2
30,000	-44.5	-31	14	15	15	-10	15	16	16	-31	14	15	15	-32	13	14	14	-31	14	15	16	2	2	2	1
20,000	-21.2	-5	17	18	18	-5	16	17	18	-5	16	17	17	-6	16	17	17	-5	16	17	18	1	1	1	1
10,000	-4.6	10	14	15	15	10	15	16	16	9	14	14	15	9	14	15	15	10	14	15	16	1	1	1	1
KWAJALEIN TO MAKASSAR																									2999 N.MI.
55,000	-56.5	-82	-25	-23	-22	-80	-24	-22	-21	-78	-72	-20	-19	-80	-23	-22	-21	-80	-24	-21	-20	3	3	3	3
40,000	-56.5	-53	3	4	5	-52	4	6	7	-54	2	1	4	-54	2	4	4	-54	3	5	6	2	3	2	2
30,000	-44.5	-31	14	15	16	-31	13	14	15	-31	13	14	15	-31	13	14	15	-31	11	15	15	2	2	2	2
20,000	-21.2	-4	17	18	19	-5	16	17	17	-5	16	17	17	-6	16	17	17	-5	16	17	18	2	2	1	1
10,000	-4.6	10	15	16	16	10	15	16	17	10	14	15	16	10	15	16	16	10	15	16	16	1	2	1	1

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
LAGOS TO LEOPOLDVILLE																									979 N.MI.
55,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-18	-76	-19	-17	-16	-77	-21	-19	-18	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-54	3	4	5	-52	5	6	7	-53	4	5	6	2	3	2	2
30,000	-44.5	-33	12	13	14	-30	15	16	17	-32	12	13	14	-30	14	15	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-6	15	16	17	-4	17	18	19	-5	16	17	17	-6	16	16	17	-5	16	17	18	1	2	1	1
10,000	-4.6	10	14	15	16	10	15	16	16	8	13	14	15	10	15	16	17	10	14	15	16	1	2	2	1
LAGOS TO LIBREVILLE																									518 N.MI.
55,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-14	-76	-20	-18	-17	-77	-21	-19	-18	-77	-21	-19	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-54	2	3	4	-51	5	6	7	-53	4	5	6	2	3	2	2
30,000	-44.5	-33	11	12	13	-10	15	16	17	-32	12	13	14	-30	14	15	16	-31	13	15	15	2	2	2	2
20,000	-21.2	-7	15	16	16	-5	16	18	18	-5	16	17	17	-6	16	16	17	-5	16	17	18	1	2	1	1
10,000	-4.6	9	14	15	15	10	15	16	17	9	14	14	15	10	15	16	17	10	14	15	16	1	2	1	1
LAGOS TO LISBON																									2046 N.MI.
55,000	-56.5	-70	-14	-12	-10	-69	-13	-11	-9	-72	-15	-13	-12	-72	-15	-13	-12	-71	-14	-12	-11	3	3	3	3
40,000	-56.5	-55	1	4	5	-56	3	5	7	-52	4	5	6	-54	3	4	5	-54	3	4	5	4	4	2	2
30,000	-44.5	-60	4	6	6	-36	8	10	11	-33	12	13	14	-35	9	11	12	-36	8	10	12	2	2	2	2
20,000	-21.2	-13	8	9	10	-11	10	12	13	-7	15	16	16	-9	13	14	14	-10	11	13	14	2	2	2	2
10,000	-4.6	4	8	10	11	6	11	12	11	12	17	18	19	7	12	13	14	7	12	14	15	2	2	2	2
LAGOS TO LONDON																									2700 N.MI.
55,000	-56.5	-67	-10	-8	-6	-65	-9	-7	-5	-67	-11	-9	-8	-68	-12	-10	-8	-67	-10	-8	-7	4	3	3	3
40,000	-56.5	-56	1	4	5	-55	2	5	7	-52	4	6	7	-54	2	4	5	-54	2	5	6	4	5	3	3
30,000	-44.5	-43	2	4	5	-39	6	7	8	-34	10	12	13	-37	7	9	10	-38	6	9	10	3	3	3	3
20,000	-21.2	-16	5	7	8	-14	8	9	10	-8	13	15	15	-11	10	12	13	-12	9	11	13	3	3	2	2
10,000	-4.6	1	5	7	6	4	8	10	11	10	15	17	17	5	10	11	12	5	10	12	14	3	3	2	2
LAGOS TO MADRID																									2067 N.MI.
55,000	-56.5	-70	-13	-11	-10	-68	-12	-10	-9	-71	-15	-13	-12	-73	-15	-13	-12	-70	-14	-11	-10	3	3	3	3
40,000	-56.5	-55	1	4	5	-56	3	5	7	-52	4	6	6	-54	3	4	5	-54	3	5	6	4	4	2	3
30,000	-44.5	-61	4	5	6	-37	8	9	10	-33	12	13	14	-35	9	11	11	-36	8	10	11	2	2	2	2
20,000	-21.2	-14	7	9	10	-11	10	11	12	-7	15	16	17	-9	12	13	14	-10	13	13	14	2	2	2	2
10,000	-4.6	3	8	10	10	6	11	12	13	13	17	18	19	7	12	13	14	7	12	14	15	2	2	2	2
LAGOS TO NAIROBI																									2067 N.MI.
55,000	-56.5	-78	-21	-19	-18	-77	-21	-19	-18	-76	-19	-18	-17	-77	-21	-19	-18	-77	-21	-19	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-54	3	4	5	-52	5	6	7	-53	4	5	6	2	3	2	2
30,000	-44.5	-32	12	13	14	-29	15	16	17	-32	13	14	15	-30	15	16	16	-31	14	15	16	2	2	2	2
20,000	-21.2	-5	16	17	17	-4	17	18	19	-5	16	17	18	-6	16	16	17	-5	16	17	18	1	2	1	1
10,000	-4.6	10	15	16	16	10	15	16	16	9	14	15	15	10	15	16	15	10	14	15	16	1	2	1	1
LAGOS TO NEW YORK																									4553 N.MI.
55,000	-56.5	-69	-12	-10	-9	-67	-11	-9	-8	-69	-12	-10	-9	-70	-14	-12	-10	-69	-12	-10	-9	3	3	3	3
40,000	-56.5	-56	0	3	4	-56	1	4	5	-54	2	4	4	-54	2	4	5	-55	1	3	4	4	4	2	3
30,000	-44.5	-61	4	5	6	-38	6	6	9	-34	10	12	12	-36	9	11	12	-37	7	9	10	3	2	2	3
20,000	-21.2	-14	7	9	10	-11	9	11	12	-8	14	15	16	-9	12	14	15	-11	10	12	13	3	3	2	2
10,000	-4.6	2	7	9	10	3	8	10	11	9	13	14	15	6	11	11	13	5	10	12	13	3	4	2	2
LAGOS TO PARIS																									2563 N.MI.
55,000	-56.5	-67	-11	-8	-7	-66	-9	-7	-6	-68	-12	-10	-9	-69	-12	-10	-9	-66	-13	-9	-7	4	3	3	3
40,000	-56.5	-56	1	4	5	-54	2	5	7	-52	4	6	7	-54	2	4	5	-54	2	5	6	4	4	3	3
30,000	-44.5	-62	2	4	5	-39	6	8	9	-14	11	12	13	-37	8	9	10	-38	7	9	10	3	3	3	3
20,000	-21.2	-16	5	7	8	-13	8	10	11	-8	14	15	16	-10	11	12	11	-12	9	12	13	3	3	2	2
10,000	-4.6	3	6	8	9	4	9	11	12	11	14	17	18	6	10	12	12	5	10	13	14	3	3	2	2
LAGOS TO RIO DE JANEIRO																									3252 N.MI.
55,000	-56.5	-77	-20	-18	-17	-77	-20	-18	-17	-72	-15	-13	-12	-74	-17	-15	-14	-75	-18	-15	-14	4	3	3	3
40,000	-56.5	-54	3	5	6	-52	4	7	8	-51	4	5	6	-53	4	5	6	-51	4	6	7	4	4	2	3
30,000	-44.5	-32	12	14	14	-31	13	15	16	-11	12	13	14	-32	12	14	15	-32	12	14	15	2	2	2	2
20,000	-21.2	-6	16	17	18	-6	15	17	17	-7	14	16	16	-6	15	16	17	-6	15	16	17	2	2	2	2
10,000	-4.6	9	14	15	16	7	14	15	16	7	12	13	14	10	14	16	18	9	13	15	16	2	2	2	2
LAGOS TO ROME																									2170 N.MI.
55,000	-56.5	-69	-13	-10	-9	-68	-11	-9	-8	-71	-15	-13	-12	-71	-14	-12	-11	-70	-13	-11	-10	3	3	3	3
40,000	-56.5	-55	2	4	6	-54	3	5	7	-51	5	7	7	-54	3	4	5	-55	3	5	6	4	4	2	2
30,000	-44.5	-61	3	5	6	-37	8	9	10	-32	12	14	15	-36	9	10	11	-37	8	10	12	2	2	2	2
20,000	-21.2	-15	7	8	9	-12	9	11	12	-6	15	16	17	-9	12	13	14	-11	11	13	14	3	2	2	2
10,000	-4.6	2	7	9	10	6	10	12	13	12	17	18	19	7	11	13	13	7	11	14	15	3	3	2	2
LAGOS TO SANTA MARIA																									2198 N.MI.
55,000	-56.5	-75	-15	-12	-11	-70	-11	-11	-10	-72	-15	-14	-13	-72	-16	-14	-13	-71	-15	-13	-11	3	3	3	3
40,000	-56.5	-58	1	3	5	-54	2	5	6	-53	4	5	6	-54	3	4	5	-54	2	4	5	4	4	2	2
30,000	-44.5	-60	5	6	7	-36	9	10	11	-13	11	13	13	-35	10	11	12	-36	9	11	12	2	2	2	2
20,000	-21.2	-13	9	10	11	-10	11	12	13	-7	14	16	16	-8	13	14	15	-9	12	13	14	2	2	2	2
10,000	-4.6	5	9	11	11	5	11	12	13	11	16	17	18	8	12	14	14	7	12	14	15	2	2	2	2
LAGOS TO TRIPOLI																									1658 N.MI.
55,000	-56.5	-72	-16	-14	-13	-71	-15	-13	-12	-74	-18	-16	-15	-74	-17	-15	-14	-73	-16	-14	-13	3	3	3	3
40,000	-56.5	-54	3	5	6	-53	4	6	7	-52	5	6	7	-53	3	5	6	-53	4	5	6	3	4	2	2
30,000	-44.5	-39	5	6	7	-14	10	12	12	-31	13	15	16	-34	11	12	12	-35	10	12	13	2	2	2	2
20,000	-21.2	-12	9	10	11	-10	12	13	14	-5	16	17	18	-8	13	14	15	-9	13	14	15	2	2	2	1
10,000	-4.6	5	9	11	12	8	12	14	15	13	18	19	19	9	13	14	15	9	13	15	16	2	2	2	2
LAHORE TO RAWALPINDI																									141 N.MI.
51,000	-56.5	-65	-8	-5	-4	-63	-6	-4	-2	-68	-12	-8	-7	-65	-9	-6	-4	-65	-9	-5	-4	4	4	5	4
40,000	-56.5	-54	2	6	7	-54	2	6	8	-47	9	13	14	-54	1	6	8	-52	4	8	11	5	5	5	5
10,000	-44.5	-44	1	4	5	-41	4	7	9	-27	17	20	22	-37	8	11	12	-37	7	12	15	5	5	4	4
20,000	-21.2	-19	2	5	6	-13	8	11	13	-3	18	20	22	-12	10	12	13	-12	10	13	16	4	4	3	4
10,000	-4.6	-3	2	5	6	5	9	12	13	14	19	21	22	5	10	12	13	5	10	14	16	4	4	3	4
LAJES TO LISBON																									839 N.MI.
55,000	-56.5	-61	-4	-1	0	-59	-2	1	2	-61	-4	-2	-0	-62	-6	-3	-2	-61	-4	-1	1	4	4	4	3
40,000	-56.5	-59	-2	2	4	-58	-2	2	4	-54	3	6	7	-56	0	3	4	-57	-0	3	5	6	5	4	4
30,000	-44.5	-46	-1	1	2	-44	1	3	4	-37	8	10	11	-40	4	7	8	-42	3	6	8	3	3	3	3
20,000	-21.2	-19	2	5	6	-17	4	6	8	-10	11	13	14	-13	8	10	12	-15	6	9	10	4	4	3	3
10,000	-4.6	-2	2	5	6	-1	4	6	8	7	11	13	14	3	7	9	11	2	6	9	10	4	4	3	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
LAJES TO LONDON																									1350 N.MI.
53,000	-56.5	-59	-3	1	2	-56	0	3	5	-55	1	4	5	-60	-3	-1	1	-57	-1	2	4	5	4	4	4
40,000	-56.5	-58	-2	2	5	-57	-1	3	6	-53	3	7	8	-56	0	3	5	-56	0	4	6	6	6	5	5
30,000	-44.5	-48	-3	-1	1	-45	-1	2	3	-39	6	8	10	-42	2	5	6	-43	1	4	6	4	4	4	4
20,000	-21.2	-22	-1	3	4	-20	1	4	6	-12	9	11	12	-16	5	8	10	-18	4	7	9	5	4	3	4
10,000	-4.6	-6	-1	2	4	-3	1	4	5	3	8	10	11	-0	4	7	8	-2	3	6	8	5	4	3	4
LAJES TO NAIROBI																									4255 N.MI.
51,000	-56.5	-71	-15	-12	-11	-70	-13	-11	-10	-72	-15	-13	-12	-72	-15	-14	-13	-71	-15	-12	-11	3	3	3	3
40,000	-56.5	-55	1	4	5	-54	3	5	7	-52	4	6	6	-54	3	4	5	-54	3	5	6	3	4	2	2
30,000	-44.5	-39	5	7	8	-35	9	11	11	-32	12	14	14	-34	10	12	12	-35	9	11	12	2	2	2	2
20,000	-21.2	-12	9	11	52	-10	11	13	14	-6	15	16	17	-8	13	14	55	-9	12	14	15	2	2	2	2
10,000	-4.6	5	9	11	12	6	11	13	13	11	16	17	18	8	12	14	14	8	12	54	15	2	2	2	2
LAJES TO NEW YORK																									2133 N.MI.
53,000	-56.5	-60	-4	-1	0	-58	-1	1	2	-60	-3	-1	-0	-62	-5	-2	-1	-60	-3	-1	1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-55	1	4	5	-56	1	4	5	-56	0	3	4	6	5	4	4
30,000	-44.5	-46	-1	1	2	-45	-1	2	3	-37	8	10	11	-40	4	7	8	-42	2	6	7	4	4	3	4
20,000	-21.2	-21	0	4	6	-19	2	5	7	-10	11	13	14	-14	8	10	12	-16	5	8	10	5	4	3	4
10,000	-4.6	-6	-2	2	4	-4	1	4	5	5	10	11	12	1	6	9	10	-1	4	7	8	6	4	2	4
LAS PALMAS TO LISBON																									721 N.MI.
53,000	-56.5	-64	-7	-4	-3	-62	-5	-3	-1	-65	-9	-7	-6	-65	-9	-7	-6	-64	-8	-5	-3	4	4	3	3
40,000	-56.5	-58	-1	2	4	-57	-0	3	5	-52	4	6	7	-56	1	3	4	-56	1	3	5	5	5	3	3
30,000	-44.5	-45	-0	2	3	-41	3	5	6	-35	9	11	12	-39	6	8	9	-40	4	7	9	3	3	3	3
20,000	-21.2	-17	4	6	7	-15	6	8	9	-9	12	14	15	-11	10	12	13	-13	8	10	12	3	3	2	3
10,000	-4.6	-0	5	7	8	2	6	8	9	10	14	16	17	5	9	11	12	4	9	11	13	3	3	2	3
LA PAZ TO MIAMI																									2634 N.MI.
53,000	-56.5	-77	-21	-19	-38	-76	-20	-18	-17	-72	-16	-14	-13	-76	-19	-18	-17	-75	-19	-17	-15	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	4	6	7	-55	2	3	4	-54	3	4	5	-54	3	5	6	3	3	2	2
30,000	-44.5	-11	11	11	13	-32	13	14	15	-33	12	13	14	-31	13	14	15	-32	12	14	14	2	2	2	2
20,000	-21.2	-6	15	17	17	-5	16	17	18	-8	14	15	15	-6	15	16	17	-6	15	16	17	2	2	1	2
10,000	-4.6	9	13	15	15	9	14	15	16	9	13	14	15	10	54	15	16	9	14	15	15	2	2	2	2
LA PAZ TO NATAL																									2036 N.MI.
51,000	-56.5	-77	-21	-18	-17	-76	-20	-18	-17	-70	-14	-11	-10	-73	-16	-14	-11	-74	-18	-14	-13	4	3	4	3
40,000	-56.5	-53	1	5	6	-52	5	7	8	-53	4	6	7	-54	3	5	6	-53	4	6	8	3	4	3	3
30,000	-44.5	-32	13	14	15	-31	14	16	17	-32	12	14	15	-31	13	15	56	-31	13	15	16	2	3	2	2
20,000	-21.2	-5	16	18	18	-5	17	18	19	-9	13	14	15	-6	15	16	17	-6	15	17	58	2	2	2	2
10,000	-4.6	10	14	16	16	10	14	16	16	7	12	13	14	10	14	16	16	9	14	15	56	2	2	2	2
LA PAZ TO NEW ORLEANS																									3053 N.MI.
51,000	-56.5	-77	-20	-18	-17	-76	-19	-17	-16	-73	-16	-14	-13	-76	-20	-18	-17	-75	-19	-16	-15	3	3	3	3
40,000	-56.5	-54	2	4	5	-51	4	5	6	-55	2	3	4	-54	2	4	4	-54	2	4	6	3	3	2	2
30,000	-44.5	-14	11	12	13	-12	12	13	14	-33	12	11	14	-32	13	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-6	15	17	17	-7	14	15	15	-6	15	16	17	-6	15	16	17	2	2	1	2
10,000	-4.6	8	13	14	15	9	13	15	16	9	13	14	15	10	14	15	16	9	13	15	15	2	2	2	2
LA PAZ TO NEW YORK																									3442 N.MI.
51,000	-56.5	-75	-18	-16	-15	-73	-17	-15	-14	-71	-14	-12	-51	-74	-18	-15	-14	-73	-17	-14	-13	3	3	3	3
40,000	-56.5	-55	2	4	5	-54	3	5	6	-55	2	3	4	-54	2	4	5	-54	2	4	5	3	3	2	2
30,000	-44.5	-15	9	11	11	-14	11	12	11	-33	11	13	13	-33	12	13	14	-34	11	12	13	2	2	2	2
20,000	-21.2	-8	13	15	15	-4	14	15	16	-8	14	15	15	-7	14	16	16	-8	14	15	16	2	2	2	2
10,000	-4.6	6	11	13	13	7	12	11	14	8	11	14	14	8	13	14	15	7	12	54	54	2	2	2	2
LA PAZ TO PANAMA																									1673 N.MI.
51,000	-56.5	-78	-21	-19	-18	-77	-20	-19	-17	-73	-16	-14	-13	-75	-19	-17	-16	-76	-19	-16	-15	3	3	3	3
40,000	-56.5	-51	3	5	6	-52	5	7	8	-54	2	4	5	-54	2	4	5	-53	3	5	7	3	3	2	2
30,000	-44.5	-32	11	14	15	-31	14	15	16	-32	12	14	15	-31	13	15	15	-11	13	15	16	2	2	2	2
20,000	-21.2	-5	16	18	18	-4	17	18	19	-8	11	14	15	-6	15	16	17	-6	15	17	18	2	2	2	2
10,000	-4.6	10	14	15	16	9	14	15	16	8	11	14	15	10	14	15	16	9	14	15	16	2	2	2	2
LA PAZ TO SANTIAGO																									5029 N.MI.
51,000	-56.5	-71	-14	-12	-10	-70	-14	-12	-10	-65	-8	-5	-4	-65	-8	-6	-5	-68	-11	-8	-6	4	4	4	4
40,000	-56.5	-53	4	6	8	-54	2	5	7	-52	5	7	8	-54	3	5	6	-51	3	6	7	4	4	3	4
30,000	-44.5	-15	10	12	13	-36	9	11	12	-39	6	8	9	-35	9	11	13	-36	8	11	12	3	3	3	3
20,000	-21.2	-8	13	15	16	-10	12	13	14	-15	6	8	9	-9	12	14	15	-11	11	13	14	3	3	3	3
10,000	-4.6	8	11	15	15	6	11	12	13	2	6	8	9	5	10	11	12	5	10	12	13	2	3	2	2
LENINGRAD TO LONDON																									1143 N.MI.
51,000	-56.5	-57	-1	2	4	-51	4	6	8	-47	9	11	12	-56	0	3	4	-53	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	3	7	9	-50	7	10	12	-56	1	4	6	-55	2	6	9	6	6	5	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-42	3	6	7	-46	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-16	-8	-4	-2	-25	-4	-0	2	-16	6	8	9	-20	1	4	6	-23	-1	2	5	6	5	4	5
10,000	-4.6	-14	-9	-5	-3	-9	-4	-1	1	-0	4	7	8	-6	-1	2	4	-7	-3	1	3	6	5	3	5
LENINGRAD TO MADRID																									1715 N.MI.
53,000	-56.5	-57	-1	3	4	-54	2	5	7	-51	6	8	9	-58	-1	1	3	-55	2	5	6	5	4	3	4
40,000	-56.5	-59	-2	2	4	-56	1	5	7	-51	5	8	10	-56	0	4	5	-55	1	5	7	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-4	-1	1	-40	4	7	9	-44	0	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-23	-2	1	3	-14	7	10	11	-18	3	6	8	-21	1	4	6	6	5	3	5
10,000	-4.6	-11	-7	-3	-1	-7	-2	1	3	2	7	9	10	-4	1	4	6	-5	-0	3	5	6	5	3	5
LENINGRAD TO MOSCOW																									329 N.MI.
51,000	-56.5	-57	-0	1	5	-52	5	7	9	-46	11	13	14	-54	2	5	6	-52	4	8	9	5	4	3	4
40,000	-56.5	-59	-1	0	2	-54	3	6	8	-49	7	10	12	-54	2	6	8	-54	2	6	9	5	6	5	5
30,000	-44.5	-54	-10	-7	-5	-49	-4	-1	1	-41	4	7	9	-46	-2	1	3	-47	-3	2	4	4	5	5	4
20,000	-21.2	-31	-10	-6	-4	-25	-4	0	3	-15	6	8	10	-22	-0	4	6	-23	-2	2	4	6	6	4	6
10,000	-4.6	-17	-13	-8	-6	-10	-5	-1	1	-1	4	6	7	-7	-2	1	3	-9	-4	-0	2	6	6	3	5
LENINGRAD TO MUNICH																									959 N.MI.
51,000	-56.5	-56	0	3	5	-53	4	6	7	-48	8	10	12	-56	0	3	4	-53	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-55	2	6	8	-50	6	9	11	-56	1	4	6	-55	2	6	8	5	6	5	5
30,000	-44.5	-53	-8	-5	-4	-49	-5	-2	-0	-41	4	6	8	-45	-1	2	4	-47	-2	1	4	4	4	4	4
20,000	-21.2	-30	-8	-4	-2	-24	-3	0	2	-15	6	9	10	-20	1	5	7	-22	-1	3	5	6	5	3	5
10,000	-4.6	-15	-10	-6	-4	-9	-4	-1	1	0	5	7	8	-5	-1	3	4	-7	-2	1	3	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
LENINGRAD TO OSLO																									589 N.MI.
55,000	-56.5	-58	-2	2	3	-52	4	7	9	-46	10	12	13	-55	1	4	5	-53	4	7	9	5	4	3	4
40,000	-56.5	-60	-3	0	2	-53	3	8	10	-49	7	11	13	-55	2	5	7	-54	2	7	9	5	6	5	5
30,000	-44.5	-54	-9	-7	-5	-50	-6	-3	-1	-42	2	5	7	-47	-2	1	2	-48	-4	0	2	4	4	4	4
20,000	-21.2	-32	-10	-7	-4	-26	-5	-2	0	-16	5	7	9	-22	-1	3	5	-24	-3	1	3	6	5	4	6
10,000	- 4.6	-17	-12	-8	-6	-11	-6	-3	-1	-1	3	6	7	-7	-2	1	3	-9	-4	-0	2	6	5	3	5
LENINGRAD TO PRAGUE																									804 N.MI.
55,000	-56.5	-57	-0	3	5	-53	4	6	8	-48	9	11	12	-56	0	3	4	-53	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	2	6	8	-50	6	10	11	-55	1	6	6	-55	2	6	8	5	6	5	5
30,000	-44.5	-53	-8	-6	-4	-49	-5	-2	-1	-41	3	6	8	-45	-1	2	3	-47	-3	1	3	6	4	4	4
20,000	-21.2	-30	-9	-5	-3	-25	-4	0	2	-15	6	9	10	-20	1	5	7	-22	-1	3	5	6	5	3	5
10,000	- 4.6	-15	-11	-6	-4	-9	-5	-1	1	0	5	7	8	-6	-1	2	4	-8	-3	1	3	6	5	3	5
LENINGRAD TO STOCKHOLM																									376 N.MI.
55,000	-56.5	-58	-1	2	4	-52	4	7	8	-46	11	12	13	-55	2	6	6	-53	4	7	9	5	6	3	6
40,000	-56.5	-60	-3	0	2	-53	3	7	9	-49	7	11	12	-55	2	5	7	-54	2	7	9	5	6	5	5
30,000	-44.5	-54	-9	-7	-5	-50	-6	-3	-1	-42	3	6	7	-47	-2	1	2	-48	-4	1	3	4	4	4	4
20,000	-21.2	-32	-11	-7	-6	-26	-5	-1	1	-16	5	8	9	-22	-1	3	5	-24	-3	1	4	6	6	4	6
10,000	- 4.6	-17	-13	-8	-6	-11	-7	-3	-1	-1	4	6	7	-7	-2	1	3	-9	-4	-1	2	6	6	3	5
LENINGRAD TO ZURICH																									1067 N.MI.
55,000	-56.5	-57	-0	3	5	-53	3	6	7	-48	8	10	11	-57	-0	3	4	-54	3	6	8	5	6	3	4
40,000	-56.5	-59	-2	1	3	-55	2	6	8	-51	6	9	11	-56	1	4	6	-55	2	6	8	5	6	5	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-0	-41	6	6	6	-45	-0	2	4	-47	-2	1	6	6	4	4	6
20,000	-21.2	-29	-8	-4	-2	-24	-3	0	2	-15	7	9	10	-20	1	5	7	-22	-1	3	5	6	5	3	5
10,000	- 4.6	-14	-10	-6	-3	-9	-4	-1	1	1	5	7	8	-5	-1	3	5	-7	-2	1	3	6	5	3	5
LEOPOLDVILLE TO LIBREVILLE																									463 N.MI.
55,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-18	-75	-19	-17	-16	-77	-20	-18	-17	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-56	3	4	5	-52	5	7	8	-53	3	5	5	-52	5	6	7	-53	4	6	6	2	3	2	2
30,000	-44.5	-32	13	14	14	-30	15	16	17	-32	12	13	14	-30	14	15	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	16	17	17	-4	17	18	19	-5	16	17	17	-6	16	17	17	-5	16	17	18	1	2	2	1
10,000	- 4.6	10	14	15	16	10	14	16	16	8	13	14	14	10	15	16	17	10	14	15	16	1	2	2	2
LEOPOLDVILLE TO LISBON																									2926 N.MI.
55,000	-56.5	-72	-16	-13	-12	-71	-15	-13	-11	-73	-16	-14	-13	-73	-16	-14	-11	-72	-16	-13	-12	3	3	3	3
40,000	-56.5	-55	2	4	5	-53	3	6	7	-53	4	5	6	-53	3	5	6	-53	3	5	6	3	4	2	2
30,000	-44.5	-38	6	7	8	-34	10	11	12	-13	12	13	14	-34	11	12	13	-35	10	12	13	2	2	2	2
20,000	-21.2	-11	10	11	12	-9	12	13	14	-6	15	16	17	-8	13	14	15	-9	13	14	15	2	2	2	2
10,000	- 4.6	5	10	11	12	7	12	13	14	11	16	17	18	8	13	14	15	8	13	14	15	2	2	2	2
LEOPOLDVILLE TO LONDON																									3449 N.MI.
55,000	-56.5	-69	-12	-10	-9	-68	-11	-9	-8	-69	-13	-11	-9	-70	-13	-11	-10	-69	-12	-10	-9	4	3	3	3
40,000	-56.5	-55	1	4	5	-54	3	5	7	-52	4	6	7	-54	3	4	5	-54	3	5	6	4	6	3	3
30,000	-44.5	-41	4	5	6	-37	7	9	10	-13	11	13	14	-36	9	10	11	-37	8	10	11	2	2	2	3
20,000	-21.2	-14	7	9	10	-12	9	11	12	-7	14	15	16	-10	11	13	13	-11	10	12	14	3	3	2	2
10,000	- 4.6	2	7	9	10	5	9	11	12	10	14	16	17	6	11	12	13	6	10	13	14	3	3	2	2
LEOPOLDVILLE TO MADRID																									2887 N.MI.
55,000	-56.5	-72	-15	-13	-12	-71	-14	-12	-11	-72	-16	-14	-13	-72	-14	-14	-13	-72	-15	-13	-12	3	3	3	3
40,000	-56.5	-55	2	4	5	-53	3	6	7	-52	4	5	6	-53	3	5	[illegible]	-53	3	5	6	3	4	2	2
30,000	-44.5	-39	6	7	8	-35	10	11	12	-32	12	14	14	-34	10	12	13	-35	9	11	12	2	2	2	2
20,000	-21.2	-12	9	11	12	-10	12	13	14	-6	15	16	17	-8	13	14	15	-9	12	14	15	2	2	2	2
10,000	- 4.6	5	9	11	12	7	12	13	14	11	16	17	18	8	13	14	14	8	12	14	15	2	2	2	2
LEOPOLDVILLE TO MONROVIA																									1671 N.MI.
55,000	-56.5	-78	-21	-19	-18	-77	-21	-19	-18	-76	-19	-17	-16	-77	-21	-19	-18	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-54	3	4	5	-52	5	6	7	-53	4	6	7	3	3	2	2
30,000	-44.5	-33	12	13	14	-30	15	16	17	-12	12	13	14	-31	14	15	16	-31	13	15	15	2	2	2	2
20,000	-21.2	-6	15	16	14	-5	16	18	18	-5	16	17	17	-6	16	17	17	-5	16	17	18	1	2	1	1
10,000	- 4.6	9	14	15	15	10	15	16	16	9	13	14	15	10	15	16	17	10	14	15	16	1	2	2	2
LEOPOLDVILLE TO MUNICH																									3157 N.MI.
55,000	-56.5	-69	-13	-11	-9	-68	-12	-10	-9	-70	-14	-12	-11	-71	-14	-12	-11	-70	-13	-11	-10	3	3	3	3
40,000	-56.5	-55	2	4	5	-54	3	5	7	-52	5	6	7	-54	3	4	5	-54	3	5	6	4	4	2	3
30,000	-44.5	-41	4	6	6	-37	8	10	10	-33	12	14	14	-35	9	11	12	-36	8	11	12	2	2	2	3
20,000	-21.2	-14	7	9	10	-11	10	12	13	-7	15	16	17	-9	12	13	14	-10	11	13	14	3	2	2	2
10,000	- 4.6	3	7	9	10	5	10	12	13	10	15	16	17	7	11	13	13	6	11	13	14	3	3	2	2
LEOPOLDVILLE TO NAIROBI																									1301 N.MI.
55,000	-56.5	-78	-21	-19	-18	-77	-21	-19	-18	-75	-18	-16	-15	-77	-20	-18	-17	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-53	4	5	6	-52	5	7	8	-53	4	5	6	-52	5	6	7	-52	4	6	7	2	3	2	2
30,000	-44.5	-31	14	15	15	-39	15	16	17	-32	12	14	14	-30	14	16	16	-31	14	15	16	2	2	2	2
20,000	-21.2	-5	17	17	18	-4	17	18	19	-5	16	17	18	-6	16	17	17	-5	16	18	18	1	2	2	1
10,000	- 4.6	10	15	16	16	10	14	15	16	8	13	14	15	10	15	16	17	10	14	15	16	2	2	2	2
LEOPOLDVILLE TO NATAL																									3029 N.MI.
55,000	-56.5	-78	-21	-19	-18	-78	-21	-19	-18	-75	-17	-15	-14	-76	-19	-17	-16	-76	-19	-17	-15	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	4	6	8	-53	3	5	6	-53	4	5	6	-53	4	6	7	3	3	2	2
30,000	-44.5	-32	13	14	15	-30	14	16	17	-12	12	14	14	-31	13	15	15	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	16	18	18	-6	15	17	17	-6	16	17	17	-5	16	17	18	2	2	2	2
10,000	- 4.6	10	14	15	16	10	14	16	16	8	12	14	14	10	15	16	17	9	14	15	16	2	2	2	2
LEOPOLDVILLE TO PARIS																									3272 N.MI.
55,000	-56.5	-69	-13	-10	-9	-68	-12	-10	-8	-70	-13	-11	-10	-70	-14	-12	-11	-69	-13	-11	-9	3	3	3	3
40,000	-56.5	-55	2	4	5	-54	3	5	7	-52	4	6	7	-54	3	4	5	-54	3	5	6	4	4	2	3
30,000	-44.5	-40	4	6	7	-37	8	9	10	-33	11	13	14	-35	9	11	12	-36	8	10	12	2	2	2	2
20,000	-21.2	-14	7	9	10	-11	10	12	13	-7	14	16	16	-10	12	13	14	-10	11	13	14	3	2	2	2
10,000	- 4.6	3	7	9	10	5	10	12	13	10	15	16	17	7	11	13	13	6	11	13	14	3	2	2	2
LEOPOLDVILLE TO PORT HARCOURT																									749 N.MI.
55,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-18	-76	-19	-17	-16	-77	-20	-19	-18	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-54	3	4	5	-51	5	6	7	-53	4	5	6	2	3	2	2
30,000	-44.5	-32	12	13	14	-30	15	16	17	-32	12	13	14	-30	14	15	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-6	15	16	17	-4	17	18	19	-5	16	17	17	-6	16	17	17	-5	16	17	18	1	2	1	1
10,000	- 4.6	10	14	15	16	10	15	16	16	8	13	14	15	10	15	16	17	10	14	15	16	1	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
LEOPOLDVILLE TO RIO DE JANEIRO																									3571 N.MI.
55,000	-56.5	-74	-20	-17	-16	-74	-19	-17	-16	-70	-15	-11	-10	-72	-15	-13	-12	-73	-17	-14	-12	4	3	4	3
40,000	-56.5	-53	4	4	7	-53	4	6	8	-52	5	6	7	-53	4	6	7	-53	4	6	7	3	4	3	3
30,000	-44.5	-32	13	14	15	-32	12	14	15	-34	11	13	13	-33	11	13	14	-33	12	14	15	2	3	2	3
20,000	-21.2	-5	14	17	18	-4	15	14	17	-8	13	15	16	-7	14	15	14	-7	15	16	17	2	2	2	2
10,000	- 4.4	9	14	15	16	9	14	15	16	6	10	12	12	9	14	15	16	8	13	14	15	2	2	2	2
LEOPOLDVILLE TO ROME																									2775 N.MI.
55,000	-56.5	-71	-15	-12	-11	-70	-14	-12	-11	-72	-16	-14	-13	-72	-16	-14	-13	-71	-15	-13	-12	3	3	3	3
40,000	-56.5	-54	2	4	6	-53	3	4	7	-52	5	4	7	-53	3	5	6	-55	3	5	6	3	4	2	2
30,000	-44.5	-39	5	7	8	-35	9	11	12	-32	13	16	15	-34	10	12	12	-35	9	12	13	2	2	2	2
20,000	-21.2	-12	9	10	11	-10	11	13	14	-6	15	17	17	-8	13	14	14	-9	12	14	15	2	2	2	2
10,000	- 4.4	4	9	10	11	7	11	13	14	11	15	17	17	8	12	16	16	7	12	14	15	2	2	2	2
LEOPOLDVILLE TO SANTA MARIA																									3561 N.MI.
55,000	-56.5	-73	-16	-14	-13	-72	-15	-13	-12	-73	-14	-15	-14	-73	-17	-15	-16	-73	-16	-14	-13	3	3	3	3
40,000	-56.5	-55	1	4	5	-56	3	5	7	-53	3	5	5	-53	3	5	6	-54	3	4	5	3	4	2	2
30,000	-44.5	-38	6	8	9	-34	10	12	12	-33	12	13	14	-36	11	12	13	-35	10	12	12	2	2	2	2
20,000	-21.2	-11	10	12	12	-9	12	16	14	-6	15	16	17	-7	14	15	15	-8	13	14	15	2	2	2	2
10,000	- 4.4	4	11	12	13	7	12	13	14	11	15	14	17	8	13	14	15	8	13	14	15	2	2	2	2
LEOPOLDVILLE TO STANLEYVILLE																									653 N.MI.
55,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-18	-75	-19	-17	-16	-77	-20	-18	-18	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-53	3	5	6	-52	5	7	8	-53	4	5	4	-52	5	4	7	-52	4	4	7	2	3	2	2
30,000	-44.5	-31	13	14	15	-30	15	14	17	-32	12	16	14	-30	15	14	17	-31	14	15	16	2	2	2	2
20,000	-21.2	-5	14	17	18	-4	17	19	19	-5	14	17	18	-4	14	17	17	-5	16	18	18	1	2	2	1
10,000	- 4.4	10	15	14	14	10	14	14	14	8	13	14	14	10	15	16	17	10	16	15	14	2	2	2	2
LEOPOLDVILLE TO TEL AVIV-JAFFA																									2449 N.MI.
55,000	-56.5	-74	-18	-16	-15	-74	-17	-15	-14	-75	-19	-17	-14	-75	-19	-17	-16	-74	-18	-16	-15	3	3	3	3
40,000	-56.5	-54	3	5	4	-55	4	4	7	-51	5	7	7	-55	4	5	6	-55	4	4	4	3	3	2	2
30,000	-44.5	-37	8	9	10	-33	12	13	14	-30	15	16	17	-32	12	14	14	-33	12	14	15	2	2	2	2
20,000	-21.2	-9	12	13	14	-8	14	15	14	-4	17	18	19	-7	14	15	16	-7	16	16	17	2	2	2	1
10,000	- 4.6	7	12	13	14	8	13	14	15	11	16	17	17	10	14	15	16	9	14	15	14	2	2	2	2
LEOPOLDVILLE TO TRIPOLI																									2227 N.MI.
55,000	-56.5	-74	-17	-14	-15	-73	-17	-15	-14	-75	-18	-16	-15	-75	-18	-14	-15	-74	-18	-16	-14	3	3	3	3
40,000	-56.5	-54	3	5	6	-52	4	4	7	-52	4	4	6	-53	4	5	4	-53	4	5	6	3	3	2	2
30,000	-44.5	-37	7	9	9	-33	12	13	14	-31	16	15	16	-33	12	13	14	-33	11	13	16	2	2	2	2
20,000	-21.2	-10	11	12	13	-8	13	15	15	-5	14	17	18	-7	14	15	15	-7	16	15	16	2	2	2	1
10,000	- 4.4	7	11	12	13	8	13	14	15	11	14	17	18	9	14	15	15	9	13	15	16	2	2	2	2
LEOPOLDVILLE TO VIENNA																									3151 N.MI.
55,000	-56.5	-69	-13	-11	-9	-68	-12	-10	-9	-70	-14	-12	-11	-71	-14	-12	-11	-70	-13	-11	-10	3	3	3	3
40,000	-56.5	-55	2	4	5	-54	3	5	7	-51	5	7	8	-56	3	4	5	-55	3	5	6	3	6	2	3
30,000	-44.5	-41	4	5	4	-37	8	10	10	-32	12	16	15	-35	9	11	12	-36	8	11	12	2	2	2	2
20,000	-21.2	-14	7	9	10	-11	10	12	13	-4	15	16	17	-9	12	13	14	-10	11	13	16	3	3	2	2
10,000	- 4.6	2	7	9	10	5	10	12	12	10	14	14	16	7	11	13	13	6	11	13	14	3	3	2	2
LEOPOLDVILLE TO ZURICH																									3131 N.MI.
55,000	-56.5	-69	-13	-11	-10	-69	-12	-10	-9	-70	-14	-12	-11	-71	-14	-12	-11	-70	-13	-11	-10	3	3	3	3
40,000	-56.5	-55	2	4	5	-56	3	5	7	-52	5	6	7	-54	3	5	5	-54	3	5	4	4	4	2	3
30,000	-44.5	-40	4	4	7	-36	8	10	11	-33	12	13	14	-35	9	11	12	-14	8	11	12	2	2	2	2
20,000	-21.2	-14	7	9	10	-11	10	12	13	-7	15	14	17	-9	12	13	14	-10	11	13	16	3	2	2	2
10,000	- 4.4	5	8	9	10	5	10	12	13	10	15	16	17	7	11	13	14	6	11	13	14	3	3	2	2
LIBREVILLE TO LISBON																									2515 N.MI.
55,000	-56.5	-71	-15	-13	-12	-70	-14	-12	-11	-73	-14	-14	-13	-72	-14	-14	-13	-72	-15	-13	-12	3	3	3	3
40,000	-56.5	-55	2	4	5	-53	3	6	7	-53	4	5	6	-53	3	5	4	-54	3	5	5	4	4	2	2
30,000	-44.5	-38	5	7	7	-35	9	11	12	-33	12	13	14	-34	10	12	12	-35	9	11	12	2	2	2	2
20,000	-21.2	-12	9	10	11	-10	11	13	14	-4	15	14	17	-8	13	14	15	-9	12	14	15	2	2	2	2
10,000	- 4.4	5	9	11	12	7	11	13	14	12	17	18	18	8	13	14	14	8	12	14	15	2	2	2	2
LIBREVILLE TO LONDON																									3102 N.MI.
55,000	-56.5	-68	-12	-9	-8	-67	-10	-8	-7	-68	-12	-10	-9	-69	-13	-11	-10	-68	-12	-9	-8	4	3	3	3
40,000	-56.5	-55	1	4	5	-54	2	5	7	-52	4	6	7	-54	2	4	5	-54	2	5	4	4	4	3	3
30,000	-44.5	-42	3	5	5	-38	7	8	9	-34	11	12	13	-36	8	10	11	-37	7	9	11	3	3	3	3
20,000	-21.2	-15	4	8	9	-13	9	10	11	-7	14	15	14	-10	11	12	13	-11	10	12	13	3	3	2	2
10,000	- 4.4	2	6	8	9	4	9	11	12	10	15	16	17	4	10	12	13	5	10	12	14	3	3	2	2
LIBREVILLE TO MADRID																									2503 N.MI.
55,000	-56.5	-71	-14	-12	-11	-70	-13	-11	-10	-72	-16	-14	-13	-72	-15	-14	-13	-71	-15	-12	-11	3	3	3	3
40,000	-56.5	-55	2	4	5	-53	3	6	7	-52	4	5	6	-58	3	5	4	-54	3	5	4	4	4	2	2
30,000	-44.5	-40	5	4	7	-35	9	10	11	-31	12	13	14	-35	10	11	12	-36	9	11	12	2	2	2	2
20,000	-21.2	-13	9	10	11	-10	11	12	13	-4	15	14	17	-8	13	14	14	-9	12	14	15	2	2	2	2
10,000	- 4.6	4	9	10	11	7	11	13	14	12	16	18	18	8	12	13	14	8	12	14	15	2	2	2	2
LIBREVILLE TO TUNIS																									2184 N.MI.
55,000	-56.5	-72	-14	-14	-12	-71	-14	-13	-12	-74	-17	-15	-14	-73	-17	-15	-14	-72	-16	-14	-13	3	3	3	3
40,000	-56.5	-54	2	4	6	-53	4	4	7	-52	5	6	7	-53	3	5	6	-55	3	5	6	3	4	2	2
30,000	-44.5	-39	5	7	8	-34	10	11	12	-32	13	14	15	-34	10	12	13	-35	10	12	13	2	2	2	2
20,000	-21.2	-12	9	11	11	-10	12	13	14	-5	14	17	17	-8	13	14	15	-9	12	14	15	2	2	2	1
10,000	- 4.4	5	9	11	12	7	12	14	14	12	17	18	18	8	13	14	15	8	13	15	16	2	2	2	2
LIBREVILLE TO ZURICH																									2820 N.MI.
55,000	-56.5	-69	-12	-10	-9	-68	-11	-9	-8	-70	-13	-11	-10	-70	-14	-12	-11	-69	-13	-10	-9	3	3	3	3
40,000	-56.5	-55	1	4	5	-54	3	5	7	-52	5	6	7	-54	1	4	5	-54	3	5	6	4	4	2	3
30,000	-44.5	-41	3	5	6	-37	7	9	10	-31	12	13	14	-36	9	10	11	-37	8	10	11	2	2	2	2
20,000	-21.2	-15	6	8	9	-12	9	11	12	-7	14	16	16	-10	12	13	13	-11	10	13	14	3	2	2	2
10,000	- 4.6	2	7	9	10	5	10	11	12	11	15	17	17	6	11	12	13	6	11	13	14	3	3	2	2
LIMA TO LISBON																									4862 N.MI.
51,000	-56.5	-73	-17	-14	-13	-72	-16	-14	-13	-70	-14	-12	-11	-73	-17	-15	-14	-72	-16	-13	-12	3	3	3	3
40,000	-56.5	-55	1	4	5	-55	2	4	6	-54	3	4	5	-54	2	4	4	-55	2	4	5	3	4	2	2
30,000	-44.5	-37	8	9	10	-35	10	11	12	-34	11	12	13	-33	11	13	13	-35	10	12	13	2	2	2	2
20,000	-21.2	-10	12	13	14	-9	13	14	15	-8	13	15	15	-7	14	15	16	-8	13	14	15	2	2	2	2
10,000	- 4.6	6	11	12	13	6	11	12	13	9	13	14	15	8	13	14	15	7	12	13	14	2	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50*	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
LIMA TO LONDON																									5477 N.MI.
55,000	-56.5	-70	-15	-11	-10	-69	-12	-10	-9	-66	-10	-8	-7	-70	-15	-11	-10	-69	-12	-10	-8	3	3	3	3
40,000	-56.5	-56	1	3	5	-55	1	4	5	-54	2	4	5	-55	2	3	5	-55	1	4	5	4	4	3	3
30,000	-44.5	-39	5	7	8	-37	7	9	10	-35	9	11	12	-35	9	11	12	-37	8	10	11	3	3	2	3
20,000	-21.2	-12	9	11	12	-11	10	12	13	-9	12	14	14	-9	12	14	14	-11	11	12	13	3	3	2	2
10,000	- 4.6	5	8	10	11	4	9	10	11	7	11	13	13	6	11	12	13	5	10	11	12	3	3	2	2
LIMA TO LOS ANGELES																									3633 N.MI.
55,000	-56.5	-76	-19	-17	-16	-75	-18	-16	-15	-73	-17	-15	-14	-76	-19	-18	-17	-75	-18	-16	-15	3	3	3	3
40,000	-56.5	-55	2	4	5	-54	2	4	5	-55	2	3	4	-54	2	4	4	-55	2	3	4	3	3	2	2
30,000	-44.5	-36	9	10	11	-34	10	11	12	-33	12	13	14	-33	12	13	14	-34	11	12	13	2	2	2	2
20,000	-21.2	-8	13	15	16	-7	14	15	16	-7	14	15	16	-7	15	16	16	-7	14	15	16	2	2	1	2
10,000	- 4.6	7	12	14	14	9	13	15	16	9	14	15	15	10	14	15	16	9	13	15	15	2	2	2	2
LIMA TO MADRID																									5159 N.MI.
55,000	-56.5	-72	-16	-14	-12	-72	-15	-13	-12	-70	-13	-11	-10	-72	-16	-14	-13	-72	-15	-13	-11	3	3	3	3
40,000	-56.5	-55	1	3	5	-55	2	4	6	-54	3	4	5	-55	2	4	4	-55	2	4	5	4	4	2	2
30,000	-44.5	-37	7	9	10	-35	9	11	12	-34	11	12	13	-34	11	12	13	-35	9	11	12	2	2	2	2
20,000	-21.2	-10	11	13	14	-9	12	14	14	-8	13	14	15	-8	14	15	16	-9	12	14	15	2	2	2	2
10,000	- 4.6	6	10	12	13	6	11	12	13	9	13	14	15	8	12	14	14	7	12	13	14	2	2	2	2
LIMA TO MEXICO CITY																									2290 N.MI.
55,000	-56.5	-78	-22	-20	-19	-77	-21	-19	-18	-74	-17	-16	-15	-77	-21	-19	-18	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-54	3	4	5	-53	3	5	6	-55	2	3	4	-54	2	4	4	-54	3	4	5	2	3	2	2
30,000	-44.5	-33	11	13	13	-32	13	14	15	-32	12	13	14	-31	13	14	15	-32	12	14	14	2	2	2	2
20,000	-21.2	-6	16	17	18	-5	16	17	18	-7	14	15	16	-6	15	16	17	-6	15	17	17	2	2	1	1
10,000	- 4.6	9	14	15	15	10	14	16	16	9	13	14	15	10	15	16	16	9	14	15	16	2	2	2	1
LIMA TO MIAMI																									2282 N.MI.
55,000	-56.5	-77	-21	-19	-18	-76	-20	-18	-17	-73	-17	-15	-14	-77	-20	-18	-17	-76	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	3	4	5	-53	4	6	7	-55	1	3	4	-54	2	4	4	-54	3	4	6	2	2	2	2
30,000	-44.5	-33	11	12	13	-32	13	14	15	-33	12	13	14	-31	13	14	15	-32	12	14	14	2	2	2	2
20,000	-21.2	-6	15	17	17	-5	16	17	18	-7	14	15	15	-6	15	16	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	9	13	15	15	9	13	15	15	9	14	15	15	10	14	15	16	9	14	15	15	2	2	2	1
LIMA TO NEW ORLEANS																									2626 N.MI.
55,000	-56.5	-77	-20	-18	-17	-76	-19	-17	-16	-73	-17	-15	-14	-77	-20	-18	-17	-76	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	2	4	5	-53	3	5	6	-55	1	3	3	-54	2	4	4	-54	2	4	5	2	3	2	2
30,000	-44.5	-34	10	12	12	-33	12	13	14	-32	12	13	14	-32	13	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-7	15	16	17	-6	15	17	17	-7	14	15	16	-6	15	16	17	-6	15	16	17	2	2	1	2
10,000	- 4.6	8	13	14	15	9	13	15	16	9	14	15	15	10	14	15	16	9	14	15	15	2	2	1	2
LIMA TO NEW YORK																									3160 N.MI.
55,000	-56.5	-75	-18	-16	-15	-73	-17	-15	-14	-71	-15	-13	-12	-75	-18	-16	-15	-73	-17	-15	-13	3	3	3	3
40,000	-56.5	-55	2	4	5	-54	3	4	6	-55	1	3	3	-54	2	4	4	-55	2	4	5	3	3	2	2
30,000	-44.5	-36	9	10	11	-34	10	12	12	-33	11	13	13	-33	12	13	14	-34	10	12	13	2	2	2	2
20,000	-21.2	-9	13	14	15	-8	13	15	16	-7	14	15	15	-7	14	16	16	-8	14	15	16	2	2	2	2
10,000	- 4.6	6	11	12	13	7	11	13	14	8	13	14	15	8	13	14	15	7	12	13	14	2	2	2	2
LIMA TO PANAMA																									1279 N.MI.
55,000	-56.5	-78	-22	-20	-19	-77	-21	-19	-18	-73	-17	-15	-14	-76	-20	-18	-17	-76	-20	-17	-16	3	3	3	3
40,000	-56.5	-54	3	5	6	-52	5	7	8	-54	2	4	5	-54	2	4	4	-53	3	5	6	3	3	2	2
30,000	-44.5	-32	13	14	14	-31	14	15	16	-32	12	14	14	-31	13	15	15	-31	13	15	15	2	2	2	2
20,000	-21.2	-5	17	18	18	-4	17	18	18	-7	14	15	15	-6	16	17	17	-5	16	17	18	2	2	1	1
10,000	- 4.6	10	14	15	16	9	14	15	16	9	13	15	15	10	15	16	16	9	14	15	16	2	2	2	2
LIMA TO QUITO																									723 N.MI.
55,000	-56.5	-78	-21	-19	-18	-77	-21	-19	-18	-73	-17	-16	-13	-75	-19	-17	-16	-76	-18	-17	-15	3	3	3	1
40,000	-56.5	-53	3	5	6	-52	4	7	8	-54	3	4	5	-54	2	4	4	-53	3	5	7	3	3	2	2
30,000	-44.5	-32	13	14	15	-31	14	15	16	-32	12	14	15	-31	13	15	15	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	17	18	19	-5	17	18	18	-8	13	15	15	-6	15	16	17	-6	16	17	18	2	2	2	2
10,000	- 4.6	10	14	16	16	9	14	15	16	8	13	14	15	10	14	15	16	9	14	15	16	2	2	2	2
LIMA TO RIO DE JANEIRO																									2051 N.MI.
55,000	-56.5	-76	-19	-16	-15	-75	-18	-16	-15	-69	-12	-10	-8	-70	-13	-11	-10	-72	-14	-12	-11	4	3	4	3
40,000	-56.5	-52	4	6	8	-52	4	7	8	-52	4	6	7	-54	3	5	6	-53	4	6	8	3	4	3	3
30,000	-44.5	-32	12	14	15	-33	12	14	15	-34	10	12	13	-33	12	13	15	-33	12	14	15	3	3	3	3
20,000	-21.2	-5	16	17	18	-7	15	16	17	-11	11	12	13	-7	14	15	16	-8	14	16	17	2	2	2	2
10,000	- 4.6	9	14	15	16	9	13	15	15	5	10	11	12	8	13	14	15	8	12	14	15	2	2	2	2
LIMA TO SAN FRANCISCO																									3925 N.MI.
55,000	-56.5	-75	-18	-16	-15	-73	-17	-15	-14	-73	-16	-14	-13	-75	-19	-17	-16	-74	-17	-15	-14	3	3	3	3
40,000	-56.5	-55	2	4	5	-55	2	4	5	-55	2	3	4	-54	2	4	4	-55	2	3	4	3	3	2	2
30,000	-44.5	-36	8	10	10	-35	9	11	11	-33	12	13	14	-33	11	13	13	-34	10	12	13	2	2	2	2
20,000	-21.2	-9	12	14	15	-8	13	15	16	-7	14	15	16	-7	14	15	16	-8	13	15	15	3	2	1	2
10,000	- 4.6	7	11	13	14	8	13	14	15	9	14	15	16	9	14	15	16	8	13	14	15	3	3	2	2
LIMA TO SAN JUAN																									1965 N.MI.
55,000	-56.5	-78	-21	-19	-18	-77	-21	-19	-18	-73	-16	-15	-14	-76	-20	-18	-17	-76	-20	-17	-16	3	3	3	3
40,000	-56.5	-54	3	5	6	-52	4	6	7	-55	2	3	4	-54	3	4	4	-54	3	5	6	3	3	2	2
30,000	-44.5	-33	12	13	14	-31	14	15	16	-32	12	13	14	-31	13	15	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	16	18	18	-7	14	15	15	-6	16	17	17	-6	15	17	18	2	2	1	1
10,000	- 4.6	9	14	15	16	9	14	15	16	9	13	15	15	10	14	15	16	9	14	15	16	2	2	2	2
LIMA TO SANTA MARIA																									4147 N.MI.
55,000	-56.5	-74	-18	-16	-15	-74	-17	-15	-14	-71	-14	-13	-11	-74	-17	-15	-14	-73	-17	-14	-13	3	3	3	3
40,000	-56.5	-55	2	4	5	-54	2	4	6	-54	2	4	4	-54	2	4	4	-55	2	4	4	3	3	2	2
30,000	-44.5	-36	9	10	11	-34	11	12	13	-34	11	12	13	-33	12	13	14	-34	10	12	13	2	2	2	2
20,000	-21.2	-9	13	14	15	-8	13	15	16	-8	14	15	15	-7	14	16	16	-8	13	15	16	2	2	2	2
10,000	- 4.6	7	11	13	14	7	12	13	14	8	13	14	15	9	13	14	15	8	12	14	14	2	2	2	2
LIMA TO SANTIAGO																									1330 N.MI.
55,000	-56.5	-72	-15	-13	-12	-72	-15	-13	-12	-66	-9	-7	-5	-66	-10	-7	-6	-69	-12	-9	-7	4	3	4	4
40,000	-56.5	-53	4	6	7	-54	3	5	7	-52	4	7	8	-54	3	5	6	-53	3	6	7	4	4	3	3
30,000	-44.5	-34	10	12	13	-35	9	11	12	-38	7	9	10	-35	10	12	13	-35	9	11	13	3	3	3	3
20,000	-21.2	-7	14	15	16	-9	12	14	15	-14	7	9	10	-9	12	14	15	-10	11	13	15	2	2	3	3
10,000	- 4.6	9	13	15	15	7	11	13	14	5	8	9	10	5	10	11	12	6	10	12	13	2	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	D50*	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
LISBON TO LONDON																									865 N.MI.
55,000	-56.5	-59	-2	1	3	-56	0	3	5	-55	1	4	5	-60	-3	-1	1	-57	-1	2	4	5	4	4	4
40,000	-56.5	-58	-2	2	5	-57	-1	3	5	-53	3	7	8	-56	0	3	5	-56	0	4	4	6	6	5	5
30,000	-44.5	-48	-4	-1	0	-46	-1	1	3	-39	6	8	10	-42	2	5	6	-44	1	4	4	4	4	3	4
20,000	-21.2	-23	-2	2	4	-20	1	4	5	-12	9	11	12	-36	5	8	9	-18	3	7	8	5	4	3	4
10,000	- 4.6	-6	-1	2	3	-3	1	4	5	4	9	11	12	-0	4	7	8	-1	3	7	8	5	4	3	4
LISBON TO LOS ANGELES																									4931 N.MI.
55,000	-56.5	-58	-2	1	3	-55	1	4	5	-56	0	3	4	-59	-2	0	2	-57	-1	2	4	4	4	4	4
40,000	-56.5	-55	1	4	8	-55	1	5	7	-53	4	4	8	-54	2	5	7	-54	2	5	7	6	6	4	5
30,000	-44.5	-49	-5	-2	-1	-47	-3	-0	1	-39	6	8	10	-43	1	4	5	-45	-0	3	5	4	4	4	4
20,000	-21.2	-27	-4	-1	1	-23	-1	2	4	-12	9	13	55	-18	3	7	9	-20	1	5	7	6	5	3	5
10,000	- 4.6	-12	-8	-3	-1	-6	-2	2	4	4	9	11	12	-2	2	6	8	-4	0	4	7	7	5	3	5
LISBON TO LOURENCO MARQUES																									4532 N.MI.
55,000	-56.5	-73	-17	-14	-13	-72	-14	-14	-12	-72	-15	-13	-52	-73	-16	-14	-13	-72	-16	-54	-13	3	5	3	3
40,000	-56.5	-54	3	5	4	-55	4	4	7	-52	4	6	7	-55	4	5	6	-55	4	5	6	3	4	2	2
30,000	-44.5	-36	9	10	11	-34	11	12	13	-33	12	13	14	-33	11	55	13	-34	11	12	13	2	2	2	2
20,000	-21.2	-9	12	13	14	-8	13	14	15	-6	15	16	17	-8	14	55	15	-8	55	55	16	2	2	2	2
10,000	- 4.6	7	11	13	14	8	12	14	14	9	14	15	14	9	13	14	55	8	55	54	15	2	2	2	2
LISBON TO LUANDA																									3110 N.MI.
55,000	-56.5	-73	-16	-14	-13	-72	-15	-13	-12	-73	-14	-15	-14	-73	-17	-15	-14	-73	-16	-14	-13	3	3	3	3
40,000	-56.5	-55	2	4	5	-55	3	6	7	-55	4	5	6	-55	3	5	6	-55	3	5	6	3	4	2	2
30,000	-44.5	-38	7	8	9	-34	10	12	13	-33	12	13	14	-34	11	12	13	-35	10	12	53	2	2	2	2
20,000	-21.2	-11	10	12	12	-9	12	14	15	-4	15	14	17	-8	14	15	15	-8	13	14	15	2	2	2	2
10,000	- 4.6	6	10	12	12	7	12	13	14	11	14	17	17	8	13	14	15	8	13	15	55	2	2	2	2
LISBON TO MADRID																									277 N.MI.
55,000	-56.5	-60	-1	0	2	-58	-2	1	3	-60	-4	-1	-0	-62	-5	-3	-2	-60	-3	-0	2	5	4	4	3
40,000	-56.5	-58	-2	2	4	-58	-1	2	4	-55	3	6	7	-56	0	3	4	-56	0	3	5	6	5	4	4
30,000	-44.5	-47	-2	0	1	-45	-0	2	4	-37	8	10	11	-41	4	6	8	-42	2	6	7	3	4	3	4
20,000	-21.2	-20	1	4	5	-18	3	5	7	-10	11	13	14	-14	7	9	10	-14	5	8	10	4	3	3	3
10,000	- 4.6	-3	1	4	6	-1	4	6	8	8	13	15	14	2	6	8	10	1	6	9	11	4	3	3	3
LISBON TO MEXICO CITY																									4676 N.MI.
55,000	-56.5	-66	-9	-7	-5	-63	-7	-4	-3	-64	-8	-6	-5	-67	-11	-8	-7	-65	-9	-6	-4	3	3	3	4
40,000	-56.5	-58	-1	2	3	-58	-1	2	4	-56	1	3	4	-56	1	3	4	-57	-0	2	3	5	4	3	3
30,000	-44.5	-45	2	4	5	-42	3	5	6	-35	9	11	12	-38	7	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-16	5	7	9	-15	6	9	10	-9	13	14	15	-11	10	12	13	-13	8	11	12	4	3	2	3
10,000	- 4.6	-1	4	7	8	1	6	8	9	7	12	13	14	5	9	11	12	3	8	10	51	4	4	2	3
LISBON TO MILAN																									891 N.MI.
55,000	-56.5	-58	-2	1	3	-57	-0	3	4	-57	-1	1	3	-66	-4	-1	-0	-58	-2	1	3	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-2	2	4	-55	3	6	7	-56	0	3	4	-57	-0	3	5	4	6	4	4
30,000	-44.5	-48	-3	-1	0	-46	-1	1	3	-38	7	9	10	-42	3	6	7	-43	1	5	6	4	4	3	4
20,000	-21.2	-23	-1	2	3	-19	2	4	4	-11	10	12	13	-15	4	8	10	-17	4	7	9	5	4	3	4
10,000	- 4.6	-6	-1	2	4	-2	2	5	6	6	11	13	14	0	5	7	9	-0	4	8	9	5	4	3	4
LISBON TO MONTREAL																									2826 N.MI.
55,000	-56.5	-58	-1	1	3	-55	1	4	5	-56	0	3	4	-59	-2	0	2	-57	-1	2	4	4	4	4	4
40,000	-56.5	-56	0	4	7	-54	0	5	7	-54	3	6	7	-55	2	5	7	-55	1	5	7	6	4	5	5
30,000	-44.5	-48	-3	-0	1	-46	-2	1	2	-38	4	9	10	-42	2	5	4	-44	1	4	6	4	4	4	4
20,000	-21.2	-24	-3	1	3	-21	-0	3	5	-12	9	11	13	-14	5	8	10	-18	3	6	8	6	5	3	5
10,000	- 4.6	-10	-5	-1	1	-4	-1	2	4	3	8	10	11	-2	3	6	8	-3	1	5	7	6	5	3	5
LISBON TO MOSCOW																									2101 N.MI.
55,000	-56.5	-57	-1	3	4	-56	2	5	6	-52	5	7	8	-58	-2	1	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	0	4	4	-52	5	8	9	-56	1	4	5	-56	1	5	7	5	6	5	4
30,000	-44.5	-51	-6	-3	-2	-47	-3	-0	1	-39	5	8	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-13	8	10	11	-18	3	7	8	-20	1	5	7	5	5	3	5
10,000	- 4.6	-11	-4	-2	-0	-6	-1	2	4	3	7	9	10	-3	2	5	7	-4	1	4	4	5	5	3	4
LISBON TO MUNICH																									1062 N.MI.
55,000	-56.5	-58	-1	2	4	-56	0	3	5	-56	0	3	4	-60	-3	-1	0	-58	-1	2	3	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	2	4	-55	3	6	8	-54	0	3	4	-56	0	4	5	6	4	4	4
30,000	-44.5	-48	-4	-1	0	-44	-2	1	3	-38	4	9	10	-42	2	5	7	-44	1	4	6	4	4	3	4
20,000	-21.2	-23	-2	1	3	-20	1	4	5	-12	10	12	13	-14	6	8	9	-18	4	7	9	5	4	3	4
10,000	- 4.6	-4	-2	1	3	-3	2	4	5	5	10	12	13	-0	5	7	8	-1	4	7	9	5	4	3	4
LISBON TO NAIROBI																									3606 N.MI.
55,000	-56.5	-71	-15	-13	-12	-70	-14	-12	-11	-72	-16	-14	-13	-72	-16	-14	-13	-72	-15	-13	-12	3	3	3	3
40,000	-56.5	-55	2	4	5	-53	3	6	7	-52	5	4	7	-53	3	5	5	-53	3	5	6	3	4	2	2
30,000	-44.5	-39	4	7	8	-35	9	11	12	-32	13	14	15	-34	10	12	12	-35	10	12	13	2	2	2	2
20,000	-21.2	-12	10	11	12	-10	12	11	14	-4	15	17	17	-8	13	14	15	-9	12	14	15	2	2	2	2
10,000	- 4.6	5	9	11	12	7	11	13	14	12	14	17	18	8	12	14	14	8	12	14	15	2	2	2	2
LISBON TO NATAL																									3069 N.MI.
55,000	-56.5	-73	-14	-14	-13	-72	-14	-14	-13	-71	-15	-13	-12	-73	-17	-15	-14	-72	-16	-14	-13	3	3	3	3
40,000	-56.5	-55	1	3	5	-55	2	4	4	-55	3	5	5	-54	3	4	5	-54	2	4	5	4	4	2	2
30,000	-44.5	-38	7	8	9	-35	10	11	12	-34	11	12	11	-34	11	12	13	-35	10	11	12	2	2	2	2
20,000	-21.2	-11	10	12	13	-9	12	13	14	-7	14	15	16	-7	14	15	14	-9	13	14	15	2	2	2	2
10,000	- 4.6	4	10	12	12	6	11	12	13	9	14	15	16	8	13	14	15	7	12	14	14	2	2	2	2
LISBON TO NEW DELHI																									4192 N.MI.
55,000	-56.5	-59	-3	0	2	-58	-1	1	3	-61	-5	-2	-1	-61	-5	-2	-1	-60	-3	-0	1	5	4	4	4
40,000	-56.5	-54	0	3	5	-56	1	4	6	-49	8	10	12	-56	1	3	5	-54	2	6	8	5	5	4	4
30,000	-44.5	-48	-3	-1	1	-44	0	3	5	-33	12	14	15	-41	4	6	8	-41	3	7	9	4	4	4	4
20,000	-21.2	-23	-2	1	3	-17	4	6	8	-8	13	16	17	-15	7	9	10	-16	5	9	11	4	4	3	4
10,000	- 4.6	-7	-2	1	2	-1	4	7	8	9	14	16	17	2	6	9	10	1	5	9	11	5	4	3	4
LISBON TO NEW ORLEANS																									3915 N.MI.
55,000	-56.5	-62	-4	-3	-2	-60	-3	-1	1	-62	-5	-3	-2	-64	-7	-5	-3	-62	-5	-2	-1	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	4	-55	2	4	5	-56	1	3	5	-57	-0	3	4	5	5	3	4
30,000	-44.5	-45	-0	2	3	-44	1	3	4	-36	8	10	11	-39	5	7	9	-41	3	6	8	3	3	3	4
20,000	-21.2	-39	2	5	7	-17	4	7	8	-9	12	13	14	-15	9	11	12	-15	7	9	11	5	4	3	4
10,000	- 4.6	-4	0	4	4	-2	3	4	7	6	11	12	13	5	7	9	11	1	5	8	9	5	4	2	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
LISBON TO NEW YORK																									2917 N.MI.
53,000	-56.5	-59	-1	0	2	-57	-0	2	4	-58	-2	1	2	-61	-4	-1	0	-59	-2	1	2	4	4	4	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-55	2	5	6	-55	1	4	6	-56	0	6	5	6	6	4	5
30,000	-44.5	-67	-2	0	2	-65	-1	2	3	-57	7	9	11	-61	3	6	7	-63	2	5	7	4	4	3	4
20,000	-21.2	-22	-1	3	5	-20	1	4	6	-11	10	12	13	-15	7	10	11	-17	4	8	9	5	4	3	4
10,000	- 4.6	-7	-2	1	3	-4	1	4	5	5	9	11	12	0	5	8	9	-2	3	6	8	6	4	3	4
LISBON TO OSLO																									1672 N.MI.
53,000	-56.5	-58	-2	2	3	-55	2	5	6	-52	4	7	8	-58	-2	1	2	-56	1	4	5	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-52	5	8	10	-56	0	6	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-5	-2	-1	-67	-2	0	1	-60	5	7	8	-64	1	4	5	-65	-0	3	5	4	4	4	4
20,000	-21.2	-25	-4	-0	2	-22	-1	2	4	-16	8	10	11	-18	4	7	8	-20	2	5	7	5	4	3	5
10,000	- 4.6	-9	-4	-1	1	-5	-1	2	4	2	7	9	10	-2	2	5	7	-3	1	5	6	5	4	3	6
LISBON TO PANAMA																									6158 N.MI.
53,000	-56.5	-70	-13	-11	-10	-68	-12	-10	-9	-68	-11	-9	-9	-71	-14	-12	-11	-69	-13	-11	-9	3	3	3	3
40,000	-56.5	-56	0	3	4	-56	0	3	4	-55	2	3	4	-55	1	3	4	-56	1	3	4	4	4	2	3
30,000	-44.5	-60	5	6	7	-58	7	8	9	-35	10	11	12	-35	9	11	12	-37	8	9	10	3	2	2	2
20,000	-21.2	-13	9	10	11	-11	10	12	13	-8	13	14	15	-9	13	14	15	-10	11	13	14	3	3	2	2
10,000	- 4.6	3	8	10	11	4	9	10	11	8	12	14	14	7	11	13	13	5	10	12	13	3	3	2	2
LISBON TO PARIS																									789 N.MI.
53,000	-56.5	-59	-2	1	3	-56	0	3	5	-56	0	3	4	-60	-3	-1	0	-58	-1	2	3	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	3	5	-53	3	6	8	-56	0	3	5	-56	0	4	6	6	6	4	4
30,000	-44.5	-68	-3	-1	0	-66	-1	1	3	-58	6	9	10	-62	2	5	7	-63	1	4	6	4	4	3	4
20,000	-21.2	-23	-1	2	4	-20	2	4	6	-12	9	11	13	-16	6	8	10	-17	4	7	9	5	4	3	4
10,000	- 4.6	-6	-1	2	4	-3	2	4	6	5	10	12	13	0	5	7	9	-1	4	7	9	5	4	3	4
LISBON TO PRAGUE																									1204 N.MI.
53,000	-56.5	-58	-1	2	4	-56	1	3	5	-55	1	4	5	-60	-3	-1	1	-57	-1	2	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	3	5	-53	3	6	8	-56	0	3	4	-56	0	4	6	6	6	6	6
30,000	-44.5	-69	-4	-2	-0	-66	-2	1	2	-58	6	8	10	-67	2	5	6	-66	1	4	6	6	4	3	4
20,000	-21.2	-26	-3	1	2	-20	1	4	5	-12	9	11	12	-16	5	8	9	-18	3	6	8	5	4	3	4
10,000	- 4.6	-7	-3	1	3	-4	1	4	5	5	9	11	12	-0	4	7	8	-2	3	6	8	5	4	3	4
LISBON TO RIO DE JANEIRO																									4165 N.MI.
53,000	-56.5	-76	-17	-15	-14	-73	-17	-15	-13	-71	-14	-12	-11	-73	-16	-14	-13	-73	-16	-14	-12	4	3	3	3
40,000	-56.5	-55	2	4	5	-56	2	5	6	-55	4	5	6	-56	3	4	5	-56	3	4	5	3	4	2	2
30,000	-44.5	-36	8	10	11	-36	11	12	13	-35	11	13	13	-35	11	13	14	-36	10	12	13	2	2	2	2
20,000	-21.2	-9	12	13	14	-8	13	14	15	-7	14	15	16	-7	14	15	16	-8	13	15	15	2	2	2	2
10,000	- 4.6	7	11	13	13	7	12	13	14	9	11	14	15	8	13	14	15	8	12	16	14	2	2	2	2
LISBON TO ROME																									1008 N.MI.
53,000	-56.5	-59	-2	1	3	-57	-1	2	4	-59	-3	-0	1	-61	-4	-2	-1	-59	-3	1	2	5	4	3	3
40,000	-56.5	-58	-1	3	5	-58	-1	2	4	-52	4	7	8	-56	0	3	4	-56	0	4	6	6	4	6	4
30,000	-44.5	-67	-3	-1	1	-65	-1	2	3	-57	7	10	11	-61	3	6	7	-63	2	5	7	4	4	3	6
20,000	-21.2	-22	-1	2	4	-19	2	5	6	-11	11	13	14	-15	6	9	10	-16	5	8	9	4	3	3	3
10,000	- 4.6	-5	-0	3	4	-1	3	6	7	8	12	14	15	1	6	8	9	1	5	9	10	4	4	3	3
LISBON TO SAL ISLAND																									1508 N.MI.
53,000	-56.5	-68	-11	-9	-7	-67	-10	-8	-7	-69	-12	-10	-9	-70	-13	-11	-10	-68	-12	-9	-8	4	3	3	3
40,000	-56.5	-57	-0	3	4	-56	0	3	5	-53	4	5	6	-55	2	4	5	-55	1	4	5	4	4	2	3
30,000	-44.5	-62	3	4	5	-59	6	8	8	-35	10	11	12	-36	8	10	11	-38	7	9	10	3	2	2	3
20,000	-21.2	-15	7	8	9	-13	9	10	11	-8	13	15	15	-9	12	13	14	-11	10	12	13	3	3	2	2
10,000	- 4.6	3	7	9	10	4	8	10	11	10	14	16	16	6	11	12	13	6	10	12	13	3	3	2	2
LISBON TO SAN FRANCISCO																									4922 N.MI.
53,000	-56.5	-57	-1	2	4	-56	2	5	6	-56	3	5	6	-57	-1	2	3	-56	1	4	5	5	4	4	4
40,000	-56.5	-55	1	6	8	-55	2	6	8	-52	4	7	9	-56	2	6	8	-56	2	6	8	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-68	-3	-1	1	-60	4	7	8	-66	0	3	4	-66	-1	2	4	4	4	4	4
20,000	-21.2	-29	-8	-3	-1	-26	-3	1	3	-13	8	10	11	-20	2	5	7	-21	-0	4	6	6	5	4	5
10,000	- 4.6	-14	-10	-5	-3	-8	-4	0	2	5	7	10	11	-4	0	4	6	-6	-1	3	5	7	5	3	6
LISBON TO SAN JUAN																									3178 N.MI.
53,000	-56.5	-67	-11	-8	-7	-66	-9	-7	-6	-66	-10	-8	-7	-69	-12	-10	-9	-67	-11	-8	-7	4	3	3	3
40,000	-56.5	-57	-1	2	4	-58	-1	2	1	-55	2	4	5	-56	1	3	4	-56	0	2	4	4	4	2	3
30,000	-44.5	-62	3	5	6	-60	5	7	7	-35	9	11	11	-36	8	10	11	-38	6	8	9	3	3	2	3
20,000	-21.2	-14	7	9	10	-13	8	10	11	-8	13	14	15	-9	12	13	14	-11	10	12	13	3	3	2	2
10,000	- 4.6	2	7	9	10	3	7	9	10	7	12	13	14	6	10	12	13	4	9	11	12	3	3	2	2
LISBON TO SANTA MARIA																									766 N.MI.
53,000	-56.5	-61	-5	-2	0	-59	-3	0	2	-61	-5	-3	-1	-63	-6	-4	-3	-61	-5	-1	0	4	4	4	3
40,000	-56.5	-59	-2	2	4	-58	-2	2	4	-53	3	6	7	-56	0	3	4	-57	-0	3	5	6	5	4	4
30,000	-44.5	-66	-1	1	2	-63	1	3	4	-36	8	10	11	-60	5	7	8	-61	3	6	8	3	3	3	3
20,000	-21.2	-19	2	5	6	-17	4	7	8	-10	11	13	14	-13	9	11	12	-15	7	9	11	4	4	3	3
10,000	- 4.6	-2	3	5	7	-0	4	7	8	7	12	14	15	3	8	10	11	2	7	9	11	4	3	2	3
LISBON TO SANTIAGO																									5524 N.MI.
53,000	-56.5	-73	-16	-14	-13	-72	-16	-14	-12	-69	-13	-10	-9	-71	-15	-13	-12	-71	-15	-12	-11	4	3	3	3
40,000	-56.5	-56	2	4	6	-56	2	5	6	-53	4	5	6	-54	3	4	5	-54	3	5	6	4	4	2	3
30,000	-44.5	-36	8	10	11	-36	10	12	13	-35	10	12	12	-36	11	13	14	-35	10	12	13	3	2	2	3
20,000	-21.2	-9	12	14	15	-9	13	14	15	-9	12	13	14	-8	14	15	16	-9	13	14	15	2	2	2	2
10,000	- 4.6	7	12	13	14	7	11	13	14	7	12	13	16	8	12	14	14	7	12	13	14	2	2	2	2
LISBON TO SAO TOME IS.																									2466 N.MI.
53,000	-56.5	-72	-15	-13	-12	-70	-14	-12	-11	-73	-16	-14	-13	-73	-16	-14	-13	-72	-15	-13	-12	3	3	3	3
40,000	-56.5	-55	2	4	5	-53	3	6	7	-53	4	5	6	-53	3	5	6	-54	3	5	5	4	6	2	2
30,000	-44.5	-39	5	7	8	-35	10	11	12	-33	12	13	14	-34	10	12	12	-35	9	11	12	2	2	2	2
20,000	-21.2	-12	9	10	11	-10	11	13	14	-6	15	16	17	-8	13	14	15	-9	12	14	15	2	2	2	2
10,000	- 4.6	5	9	11	12	7	11	13	14	12	16	18	18	8	13	14	14	8	12	14	15	2	2	2	2
LISBON TO SEVILLE																									705 N.MI.
53,000	-56.5	-60	-3	-0	2	-58	-2	1	2	-62	-5	-3	-2	-62	-5	-3	-2	-60	-4	-1	1	5	4	3	3
40,000	-56.5	-58	-1	3	5	-57	-1	3	5	-52	4	7	8	-56	0	3	4	-56	1	6	5	6	5	6	4
30,000	-44.5	-67	-2	0	1	-64	0	2	4	-36	8	10	11	-61	6	6	8	-62	3	6	7	3	3	3	4
20,000	-21.2	-20	1	4	5	-18	6	6	7	-10	11	13	14	-14	7	9	10	-15	6	9	10	4	3	3	3
10,000	- 4.6	-3	1	4	6	-0	6	7	8	9	14	16	17	2	7	9	10	2	7	10	12	4	3	3	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	D50*	D75	D95	APRIL 50	D50	D75	D95	JULY 50	D50	D75	D95	OCTOBER 50	D50	D75	D95	ANNUAL 50	D50	D75	D95	STANDARD DEVIATION: JAN	APR	JUL	OCT
LISBON TO SHANGHAI																									5776 N.MI.
55,000	-56.5	-56	1	4	6	-53	4	6	8	-51	6	9	10	-56	1	3	5	-54	3	6	8	5	4	4	4
40,000	-56.5	-57	-1	3	5	-53	4	7	9	-49	7	11	12	-54	3	6	8	-53	3	7	10	5	6	5	5
30,000	-44.5	-52	-7	-5	-3	-47	-3	1	2	-36	8	11	13	-44	0	3	5	-45	-0	4	7	4	5	5	4
20,000	-21.2	-29	-8	-4	-2	-23	-2	2	4	-12	10	12	13	-20	1	5	7	-21	0	5	7	6	5	4	5
10,000	- 4.6	-14	-10	-6	-4	-8	-3	0	2	3	8	10	12	-5	-1	3	4	-6	-1	3	5	6	5	3	5
LISBON TO STOCKHOLM																									1618 N.MI.
55,000	-56.5	-58	-1	2	4	-55	2	5	6	-52	4	7	0	-58	-2	1	2	-56	1	4	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-52	5	8	10	-56	0	4	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-5	-3	-1	-47	-3	-0	1	-40	5	7	8	-44	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-14	8	10	11	-18	3	6	8	-20	1	5	7	5	4	3	5
10,000	- 4.6	-9	-5	-1	1	-6	-1	2	3	3	7	9	10	-3	2	5	6	-4	1	4	6	5	4	3	4
LISBON TO TEHERAN																									2041 N.MI.
55,000	-56.5	-58	-1	2	3	-57	-1	2	3	-61	-4	-2	-1	-61	-4	-2	-1	-59	-3	0	2	5	4	3	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-49	7	10	11	-56	0	3	4	-55	2	5	7	5	5	3	4
30,000	-44.5	-49	-4	-2	-1	-45	-1	2	3	-34	10	12	14	-41	3	6	7	-42	2	6	8	3	4	3	4
20,000	-21.2	-23	-2	1	2	-19	2	5	6	-9	12	14	15	-15	6	8	10	-17	5	8	10	4	4	3	3
10,000	- 4.6	-7	-3	0	2	-2	3	6	7	8	12	14	15	1	6	8	10	0	5	8	10	5	4	3	3
LISBON TO TEL AVIV-JAFFA																									2171 N.MI.
55,000	-56.5	-60	-4	-1	1	-59	-2	0	1	-64	-8	-5	-4	-62	-6	-4	-3	-61	-5	-2	-0	4	4	3	3
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-50	7	9	10	-56	0	3	4	-55	2	5	7	5	5	3	3
30,000	-44.5	-47	-2	-0	1	-44	0	2	4	-34	11	13	14	-40	4	6	7	-41	3	7	9	3	3	3	3
20,000	-21.2	-21	0	3	4	-18	4	6	7	-8	13	15	16	-14	7	9	10	-15	6	9	11	4	3	3	3
10,000	- 4.6	-5	-0	3	4	-0	4	7	8	9	14	15	16	3	7	9	10	2	6	10	11	4	4	3	3
LISBON TO TRIPOLI																									1142 N.MI.
55,000	-56.5	-61	-4	-1	0	-59	-3	-0	1	-64	-7	-5	-4	-63	-6	-4	-3	-62	-5	-2	-1	5	4	3	3
40,000	-56.5	-57	-1	3	5	-57	-0	3	5	-51	5	8	9	-56	0	3	4	-55	1	4	6	5	5	3	4
10,000	-44.5	-46	-2	0	2	-44	1	3	4	-35	9	11	12	-40	4	6	8	-41	3	6	8	3	3	3	3
20,000	-21.2	-20	1	4	5	-17	4	6	8	-9	12	14	15	-13	8	10	11	-15	6	9	11	4	3	2	3
10,000	- 4.6	-3	1	4	6	1	5	7	9	10	15	16	17	3	7	9	10	3	7	10	12	4	3	3	3
LISBON TO TUNIS																									925 N.MI.
55,000	-56.5	-60	-3	0	2	-58	-2	1	2	-62	-5	-3	-2	-62	-5	-3	-2	-60	-4	-1	1	5	4	3	3
40,000	-56.5	-58	-1	3	5	-57	-1	3	5	-52	5	7	8	-56	0	3	4	-56	1	4	6	6	5	3	4
30,000	-44.5	-47	-2	0	1	-45	-0	2	3	-36	8	10	11	-41	4	6	8	-42	2	6	7	3	3	3	4
20,000	-21.2	-21	1	3	5	-18	4	6	7	-10	11	13	14	-14	7	9	10	-15	6	9	10	4	3	3	3
10,000	- 4.6	-4	1	4	5	-0	4	7	8	9	14	16	17	2	7	9	10	2	6	10	11	4	3	3	3
LISBON TO VIENNA																									1244 N.MI.
55,000	-56.5	-58	-1	2	4	-56	0	3	5	-56	1	3	4	-60	-3	-1	0	-57	-1	2	3	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	2	4	-55	3	6	8	-56	0	3	4	-56	0	4	6	6	5	4	4
10,000	-44.5	-49	-4	-2	-0	-46	-2	1	2	-38	6	9	10	-42	2	5	7	-44	1	4	6	4	4	3	4
20,000	-21.2	-24	-1	1	2	-20	1	4	5	-12	10	12	13	-16	5	8	9	-18	3	7	8	5	4	3	4
10,000	- 4.6	-7	-2	1	3	-3	1	4	5	5	10	12	13	-0	4	7	8	-1	3	7	8	5	4	3	4
LISBON TO WARSAW																									1484 N.MI.
55,000	-56.5	-57	-1	2	4	-55	1	4	5	-54	2	5	6	-59	-3	-0	1	-57	-0	3	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-53	4	7	9	-56	0	3	5	-56	0	4	6	6	6	4	4
10,000	-44.5	-49	-5	-2	-1	-47	-2	0	2	-39	6	8	9	-43	2	5	6	-44	0	4	5	4	4	4	4
20,000	-21.2	-25	-4	-0	2	-21	0	3	5	-12	9	11	12	-17	5	7	9	-19	3	6	8	5	4	3	4
10,000	- 4.6	-8	-4	-0	2	-4	0	3	4	4	9	11	12	-1	3	6	8	-2	2	6	7	5	4	3	4
LISBON TO ZURICH																									930 N.MI.
55,000	-56.5	-58	-2	2	3	-56	0	3	4	-57	-0	2	4	-60	-4	-1	0	-58	-1	2	3	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	2	4	-53	3	6	7	-56	0	3	4	-57	-0	4	5	6	6	4	4
30,000	-44.5	-48	-4	-1	0	-46	-1	1	3	-38	7	9	10	-42	3	5	7	-43	1	4	6	4	4	3	4
20,000	-21.2	-23	-2	1	3	-20	2	4	5	-11	10	12	13	-15	6	8	10	-17	4	7	9	5	4	3	4
10,000	- 4.6	-6	-1	2	4	-3	2	4	6	6	10	12	13	0	5	7	9	-1	4	7	9	5	4	3	4
LIVINGSTONE TO LUSAKA																									204 N.MI.
55,000	-56.5	-76	-20	-17	-16	-75	-18	-16	-14	-69	-13	-11	-9	-72	-15	-13	-12	-73	-16	-14	-12	4	4	3	3
40,000	-56.5	-52	5	7	8	-52	5	1	8	-51	5	7	8	-52	4	6	7	-52	5	7	8	3	3	3	3
10,000	-44.5	-30	14	16	17	-32	13	14	15	-33	11	13	14	-33	12	13	14	-12	12	14	15	2	3	3	3
20,000	-21.2	-5	16	17	18	-6	15	16	17	-7	15	16	17	-7	14	15	16	-6	15	16	17	1	2	2	2
10,000	- 4.6	10	14	16	16	9	13	14	15	5	9	11	12	9	14	15	16	8	13	14	15	2	2	2	2
LIVINGSTONE TO NAIROBI																									1187 N.MI.
55,000	-56.5	-77	-21	-18	-17	-77	-20	-17	-16	-72	-16	-14	-13	-75	-18	-16	-15	-75	-19	-16	-15	3	4	1	3
40,000	-56.5	-52	4	6	7	-52	5	7	8	-52	5	6	7	-52	4	6	7	-52	5	7	8	3	3	2	2
30,000	-44.5	-30	14	16	16	-31	14	15	16	-31	12	13	14	-31	13	14	15	-11	13	15	16	2	2	2	2
20,000	-21.2	-5	17	17	18	-5	16	17	18	-6	15	17	17	-6	15	16	17	-5	16	17	17	1	2	2	2
10,000	- 4.6	10	14	15	16	9	14	15	15	7	11	13	13	10	14	16	16	9	13	15	16	1	2	2	2
LIVINGSTONE TO PIETERSBURG																									415 N.MI.
51,000	-56.5	-74	-18	-15	-13	-73	-16	-13	-12	-67	-10	-8	-6	-69	-13	-10	-9	-71	-14	-11	-9	4	4	3	3
40,000	-56.5	-52	5	7	8	-52	4	7	8	-51	5	7	8	-52	4	6	7	-52	5	7	8	3	3	3	3
30,000	-44.5	-31	14	16	16	-33	11	13	14	-35	10	12	13	-34	10	12	13	-33	11	13	15	2	3	3	3
20,000	-21.2	-5	16	17	17	-8	13	15	15	-9	13	14	15	-8	13	14	15	-7	14	15	16	1	2	3	2
10,000	- 4.6	10	15	16	16	8	13	14	15	4	8	10	11	9	13	15	16	8	12	14	15	2	2	3	2
LIVINGSTONE TO WINDHOEK																									570 N.MI.
55,000	-56.5	-75	-18	-16	-14	-73	-17	-14	-13	-67	-10	-8	-7	-70	-13	-11	-9	-71	-15	-11	-10	4	4	4	3
40,000	-56.5	-52	5	7	8	-52	4	7	8	-51	5	7	8	-53	4	6	7	-52	4	7	8	3	3	1	3
30,000	-44.5	-31	14	15	16	-33	11	13	14	-34	10	12	13	-34	11	11	14	-11	11	13	15	2	3	3	3
20,000	-21.2	-5	16	17	18	-8	13	15	15	-9	12	14	15	-8	13	14	15	-1	14	15	16	2	2	3	2
10,000	- 4.6	10	15	16	17	8	13	14	15	3	8	10	11	9	14	15	16	8	12	14	15	2	2	3	2
LONDON TO LOS ANGELES																									4727 N.MI.
51,000	-56.5	-57	-1	3	5	-52	4	7	8	-51	5	7	9	-56	0	3	4	-54	2	5	7	5	4	3	4
40,000	-56.5	-55	2	6	8	-53	4	8	10	-50	6	9	11	-53	3	7	9	-53	4	7	9	7	6	5	5
30,000	-44.5	-52	-8	-5	-3	-49	-4	-2	-0	-42	3	5	7	-46	-1	1	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-31	-10	-6	-4	-26	-5	-1	1	-15	6	8	10	-22	-1	3	5	-24	-2	2	4	6	5	4	5
10,000	- 4.6	-16	-12	-8	-5	-11	-6	-2	-0	1	5	8	9	-7	-2	2	4	-8	-4	1	3	6	6	4	6

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
LONDON TO LYDDA																									1938 N.MI.
55,000	-56.5	-58	-1	2	3	-56	0	3	4	-58	-2	1	2	-60	-4	-1	0	-58	-2	1	3	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-0	4	5	-49	7	10	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-50	-5	-3	-1	-46	-2	1	2	-36	9	11	12	-42	2	5	6	-43	1	5	7	4	4	3	4
20,000	-21.2	-25	-3	-0	1	-20	1	4	5	-10	11	13	14	-16	5	8	9	-18	3	7	9	5	4	3	4
10,000	- 4.6	-9	-4	-1	1	-4	1	4	5	5	10	12	13	0	5	7	9	-2	3	6	8	5	4	3	4
LONDON TO MADRID																									673 N.MI.
55,000	-56.5	-58	-2	2	3	-56	1	4	5	-55	2	4	6	-59	-3	-0	1	-57	-0	3	4	5	4	4	4
40,000	-56.5	-58	-2	2	5	-57	-1	3	6	-53	4	7	8	-56	0	3	5	-56	0	4	6	6	6	5	5
30,000	-44.5	-48	-4	-1	-0	-46	-2	1	2	-39	6	8	9	-43	2	5	6	-44	0	4	6	4	6	3	4
20,000	-21.2	-23	-2	1	3	-20	1	4	5	-12	9	11	12	-16	5	8	9	-18	3	6	8	5	4	3	4
10,000	- 4.6	-7	-2	1	3	-4	1	4	5	4	9	11	12	-1	4	7	8	-2	3	6	8	5	4	3	4
LONDON TO MALTA																									1135 N.MI.
55,000	-56.5	-57	-1	2	4	-56	1	3	5	-56	0	2	4	-60	-3	-1	0	-57	-1	2	4	5	4	3	4
40,000	-56.5	-58	-1	3	5	-57	-1	3	5	-51	5	8	9	-56	0	3	4	-56	1	4	6	6	6	4	6
30,000	-44.5	-49	-4	-2	-1	-46	-2	1	2	-38	6	9	10	-42	2	5	6	-44	1	4	6	4	4	3	4
20,000	-21.2	-24	-3	0	2	-20	1	4	5	-12	10	12	13	-16	5	8	9	-18	3	7	8	5	4	3	4
10,000	- 4.6	-7	-3	1	2	-3	1	4	5	5	10	12	13	-0	4	7	8	-1	3	7	8	5	4	3	4
LONDON TO MARSEILLES																									535 N.MI.
55,000	-56.5	-57	-1	2	4	-55	2	4	6	-53	3	6	7	-59	-2	0	2	-56	0	4	5	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-0	4	6	-52	4	7	9	-56	0	3	5	-56	0	4	7	6	6	5	5
30,000	-44.5	-49	-5	-2	-1	-47	-2	0	2	-39	5	7	9	-43	1	4	4	-45	-0	3	5	4	4	4	4
20,000	-21.2	-25	-4	-0	2	-21	0	3	5	-13	8	10	12	-17	4	7	9	-19	2	6	7	5	4	3	4
10,000	- 4.6	-8	-4	-0	2	-5	-0	3	4	3	8	10	11	-1	3	6	8	-3	2	5	7	5	4	3	4
LONDON TO MEXICO CITY																									4805 N.MI.
55,000	-56.5	-61	-5	-2	-1	-59	-2	0	2	-59	-2	0	1	-62	-6	-3	-2	-60	-4	-1	1	4	4	3	4
40,000	-56.5	-56	1	5	7	-55	1	5	7	-53	3	6	7	-54	2	5	7	-55	2	5	7	5	5	4	4
30,000	-44.5	-46	-1	1	2	-44	0	2	4	-38	7	9	10	-41	3	6	7	-42	2	5	7	4	3	3	4
20,000	-21.2	-22	-1	3	5	-20	2	5	6	-11	10	12	13	-15	6	9	10	-17	4	7	9	5	4	3	4
10,000	- 4.6	-8	-3	1	2	-4	1	4	4	4	8	10	11	0	5	8	9	-2	3	6	7	5	4	3	4
LONDON TO MILAN																									504 N.MI.
55,000	-56.5	-57	-0	3	5	-54	2	5	6	-52	4	7	8	-58	-2	1	2	-55	1	4	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-0	4	6	-52	4	8	9	-54	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-5	-3	-1	-47	-3	-0	1	-40	5	7	8	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-4	-1	1	-22	-0	3	4	-13	8	10	11	-17	4	7	8	-20	2	5	7	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-5	-1	2	3	2	7	9	10	-2	3	6	7	-3	1	5	6	5	4	3	4
LONDON TO MONTREAL																									2815 N.MI.
55,000	-56.5	-56	0	3	5	-52	4	7	8	-51	6	9	10	-55	1	4	6	-54	3	4	8	4	4	4	4
40,000	-56.5	-54	2	7	9	-53	4	8	10	-51	6	9	11	-53	3	7	9	-53	4	8	10	7	7	5	6
30,000	-44.5	-50	-5	-2	-1	-48	-3	-1	1	-41	3	6	7	-45	-0	3	4	-46	-1	2	4	4	4	4	4
20,000	-21.2	-29	-8	-3	-0	-25	-4	-0	2	-15	6	9	10	-20	1	5	7	-22	-1	3	5	7	6	4	6
10,000	- 4.6	-15	-10	-6	-3	-10	-5	-1	0	-0	4	7	8	-5	-1	3	5	-7	-3	1	3	7	5	3	5
LONDON TO MOSCOW																									1353 N.MI.
55,000	-56.5	-57	-0	3	5	-53	4	6	8	-48	9	11	12	-54	0	3	4	-53	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	2	6	9	-50	6	10	12	-56	1	4	6	-55	2	6	8	5	6	5	5
30,000	-44.5	-52	-8	-5	-4	-49	-4	-1	0	-41	3	4	8	-45	-1	2	4	-47	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-24	-3	1	3	-15	6	9	10	-20	1	5	7	-22	-1	3	5	6	5	3	5
10,000	- 4.6	-14	-9	-5	-3	-8	-4	-0	2	0	5	7	8	-6	-1	2	4	-7	-2	1	3	6	5	3	5
LONDON TO MUNICH																									510 N.MI.
55,000	-56.5	-57	-0	3	5	-54	2	5	6	-51	5	8	9	-58	-1	1	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	5	8	10	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-0	1	-40	4	7	8	-44	1	3	5	-45	-1	3	6	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-14	7	10	11	-18	3	6	8	-20	1	5	7	6	5	3	5
10,000	- 4.6	-10	-6	-2	0	-6	-1	2	3	2	7	9	10	-7	2	5	7	-4	0	4	6	6	4	3	4
LONDON TO NAIROBI																									3691 N.MI.
55,000	-56.5	-68	-11	-9	-8	-67	-10	-8	-7	-68	-12	-10	-9	-69	-13	-11	-10	-68	-12	-9	-8	3	3	3	3
40,000	-56.5	-55	1	4	5	-54	2	5	6	-51	6	7	8	-54	2	4	5	-54	3	5	6	4	4	3	3
30,000	-44.5	-41	3	5	6	-38	7	8	9	-35	12	14	15	-36	8	10	11	-37	7	10	11	3	3	3	3
20,000	-21.2	-15	6	8	9	-12	9	11	12	-7	14	16	16	-10	11	12	13	-11	10	12	14	3	3	2	2
10,000	- 4.6	1	6	8	9	4	9	10	11	9	14	15	16	6	10	12	13	5	10	12	13	3	3	2	2
LONDON TO NASSAU																									3764 N.MI.
55,000	-56.5	-61	-5	-2	-1	-59	-2	0	1	-58	-2	0	2	-62	-6	-3	-2	-60	-4	-1	0	4	3	3	4
40,000	-56.5	-57	-1	3	5	-57	-0	4	6	-54	2	5	6	-55	1	4	6	-56	1	4	5	6	6	4	6
30,000	-44.5	-46	-1	1	3	-44	0	3	4	-38	7	9	10	-40	4	7	8	-42	3	6	7	4	3	3	4
20,000	-21.2	-20	1	4	6	-17	3	5	7	-11	10	12	13	-14	7	10	11	-16	5	8	10	5	4	3	4
10,000	- 4.6	-6	-1	3	4	-5	2	4	6	4	8	10	11	[illegible]	5	8	9	-1	4	6	8	5	4	3	4
LONDON TO NATAL																									3879 N.MI.
55,000	-56.5	-69	-13	-11	-9	-68	-12	-10	-8	-68	-11	-9	-8	-70	-14	-12	-11	-69	-12	-10	-9	4	3	3	3
40,000	-56.5	-56	0	3	5	-56	1	4	6	-53	3	5	6	-54	2	4	5	-55	2	4	5	4	3	3	3
30,000	-44.5	-40	4	6	7	-37	7	9	10	-35	10	11	12	-36	9	11	12	-37	8	10	11	3	2	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-8	13	14	15	-9	12	13	14	-11	10	12	13	3	3	2	2
10,000	- 4.6	3	8	9	10	4	9	10	11	8	13	14	15	6	11	12	13	5	10	12	13	3	3	2	2
LONDON TO NEW YORK																									2990 N.MI.
55,000	-56.5	-57	-0	2	4	-54	3	5	7	-53	4	7	8	-57	-0	3	4	-55	1	5	6	4	4	4	4
40,000	-56.5	-55	2	6	8	-54	2	7	9	-52	5	8	10	-54	3	6	8	-54	3	7	9	6	7	5	5
30,000	-44.5	-49	-4	-2	0	-47	-3	0	1	-40	4	7	8	-44	1	4	5	-45	-0	3	5	6	4	4	4
20,000	-21.2	-27	-5	-1	1	-24	-2	1	3	-14	7	10	11	-19	3	6	8	-21	1	5	7	6	5	4	5
10,000	- 4.6	-13	-8	-4	-1	-8	-3	0	2	1	6	8	9	-4	1	4	6	-6	-1	2	4	6	5	3	5
LONDON TO NICOSIA																									1744 N.MI.
55,000	-56.5	-57	-0	3	4	-55	1	3	5	-56	0	2	4	-59	-3	-1	1	-57	-1	2	4	5	4	3	4
40,000	-56.5	-57	-1	3	4	-57	-0	4	6	-50	7	9	11	-56	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-47	-2	0	2	-37	7	10	11	-42	2	5	6	-44	0	4	6	5	4	4	4
20,000	-21.2	-25	-4	-1	1	-21	0	3	5	-11	10	12	13	-16	5	7	9	-18	3	6	8	5	4	3	4
10,000	- 4.6	-10	-5	-2	-0	-4	0	3	5	4	9	11	12	-0	4	7	8	-3	2	6	7	5	4	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D*50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
LONDON TO OSLO																						620 N.MI.			
55,000	-56.5	-58	-1	2	4	-53	4	6	8	-48	9	11	12	-57	-0	3	4	-54	3	6	8	5	4	5	4
40,000	-56.5	-59	-2	2	4	-54	3	7	10	-50	7	11	13	-56	1	4	6	-54	2	7	9	6	7	6	6
30,000	-44.5	-51	-7	-4	-3	-49	-4	-1	-0	-42	3	5	7	-45	-1	2	4	-47	-2	1	3	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-24	-3	0	2	-16	5	8	9	-20	1	5	7	-22	-1	3	5	6	5	4	5
10,000	-4.6	-12	-7	-4	-2	-8	-4	-1	1	-0	4	7	8	-5	-0	3	5	-6	-2	2	4	5	5	5	5
LONDON TO PANAMA																						4561 N.MI.			
55,000	-56.5	-66	-10	-7	-6	-64	-7	-5	-4	-63	-6	-4	-3	-67	-10	-8	-6	-65	-8	-6	-5	3	3	3	4
40,000	-56.5	-57	-0	3	5	-56	0	3	5	-55	2	4	5	-55	1	4	5	-56	1	3	4	5	5	3	4
30,000	-44.5	-42	2	4	5	-41	4	6	7	-36	8	10	11	-38	7	9	10	-39	5	8	9	3	3	3	3
20,000	-21.2	-16	5	8	9	-15	7	9	10	-10	12	13	14	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	-4.6	-1	4	7	8	1	5	8	9	4	10	12	12	4	8	10	11	2	7	9	10	4	3	2	3
LONDON TO PARIS																						187 N.MI.			
55,000	-56.5	-57	-1	3	4	-54	2	5	6	-51	5	8	9	-58	-1	1	3	-55	1	5	6	5	4	4	4
40,000	-56.5	-58	-2	2	5	-56	1	5	8	-51	5	9	10	-56	0	3	5	-55	1	5	8	6	7	5	5
30,000	-44.5	-50	-5	-3	-1	-47	-3	-0	1	-40	4	7	8	-44	1	3	5	-45	-1	3	4	4	4	4	4
20,000	-21.2	-25	-4	-0	2	-22	-1	2	4	-14	7	9	11	-10	3	6	8	-20	1	5	7	6	5	3	5
10,000	-4.6	-9	-4	-1	1	-6	-1	2	3	2	6	9	10	-2	3	6	7	-4	1	4	6	5	4	3	4
LONDON TO PISA																						640 N.MI.			
55,000	-56.5	-57	-0	3	5	-55	2	4	6	-53	4	6	8	-59	-2	1	2	-56	1	4	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-0	4	6	-52	4	7	9	-56	0	3	5	-56	1	4	7	6	6	5	5
30,000	-44.5	-50	-5	-3	-1	-47	-3	0	1	-40	5	7	9	-45	1	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-4	-1	1	-21	-0	3	4	-13	8	10	12	-17	4	7	9	-19	2	5	7	5	4	3	4
10,000	-4.6	-9	-4	-1	1	-5	-1	2	4	3	8	10	11	-1	3	6	8	-3	1	5	7	5	4	3	4
LONDON TO PRAGUE																						564 N.MI.			
55,000	-56.5	-57	-0	3	5	-54	3	5	7	-50	6	9	10	-58	-1	2	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	5	9	11	-56	0	3	5	-55	1	5	8	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	1	-41	4	6	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-23	-1	2	3	-16	7	9	10	-10	3	6	8	-20	1	4	6	6	5	3	5
10,000	-4.6	-11	-6	-3	-1	-6	-2	1	3	1	6	8	9	-3	2	5	7	-5	-0	3	5	4	4	3	5
LONDON TO PRESTWICK																						285 N.MI.			
55,000	-56.5	-58	-1	2	4	-53	3	6	7	-49	7	10	11	-57	-1	2	4	-56	2	6	8	5	4	4	4
40,000	-56.5	-58	-1	3	5	-56	2	7	9	-50	6	10	12	-56	1	4	6	-55	2	7	9	6	7	6	6
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-41	3	6	7	-44	0	3	4	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-25	-2	1	3	-15	6	8	10	-19	2	5	7	-21	0	4	6	6	5	3	5
10,000	-4.6	-9	-5	-1	0	-7	-2	1	2	0	5	7	8	-3	1	4	6	-5	-0	3	5	5	4	3	5
LONDON TO RIMINI																						689 N.MI.			
55,000	-56.5	-57	-0	3	5	-55	2	5	6	-52	4	6	8	-58	-2	1	2	-56	1	4	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-0	4	6	-52	4	8	9	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-6	-3	-1	-47	-3	-0	1	-40	5	7	9	-45	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-0	3	4	-13	8	10	11	-17	4	7	8	-19	2	5	7	5	4	3	4
10,000	-4.6	-9	-5	-1	1	-5	-1	2	4	3	7	10	11	-2	3	6	7	-3	1	5	7	5	4	3	4
LONDON TO RIO DE JANEIRO																						4993 N.MI.			
55,000	-56.5	-71	-15	-12	-11	-70	-14	-11	-10	-68	-11	-9	-8	-71	-14	-12	-11	-70	-13	-11	-9	4	3	3	3
40,000	-56.5	-55	1	4	5	-55	2	5	6	-53	3	5	6	-54	2	4	5	-54	2	4	5	4	4	3	3
30,000	-44.5	-38	6	8	9	-36	8	10	11	-34	10	12	13	-35	10	11	12	-36	9	11	12	3	3	2	3
20,000	-21.2	-12	10	11	12	-10	11	12	13	-8	13	14	15	-9	12	14	15	-10	11	13	14	3	3	2	2
10,000	-4.6	4	9	11	12	5	10	11	12	8	12	14	14	7	12	13	14	6	11	12	13	3	3	2	2
LONDON TO ROME																						789 N.MI.			
55,000	-56.5	-57	-0	3	5	-55	2	4	6	-53	3	5	7	-59	-2	0	2	-56	1	3	5	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-52	4	7	9	-56	0	3	5	-56	1	4	6	6	6	5	4
30,000	-44.5	-50	-5	-3	-1	-47	-2	0	2	-39	5	8	9	-45	2	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-25	-6	-1	1	-21	0	3	4	-13	9	11	12	-17	4	7	9	-19	2	6	7	5	4	4	4
10,000	-4.6	-9	-6	-1	1	-5	-0	2	4	3	8	10	11	-1	3	6	8	-3	2	5	7	5	4	3	4
LONDON TO SAN FRANCISCO																						4649 N.MI.			
55,000	-56.5	-57	-1	3	5	-51	5	8	9	-50	7	9	10	-55	1	4	5	-53	3	6	8	6	4	3	4
40,000	-56.5	-56	1	5	8	-52	4	9	11	-50	7	10	12	-53	4	7	9	-53	4	8	10	7	6	5	5
30,000	-44.5	-55	-8	-6	-4	-49	-5	-2	-1	-43	2	4	6	-47	-2	1	2	-48	-3	0	2	4	4	4	4
20,000	-21.2	-32	-11	-7	-5	-27	-6	-2	-0	-17	5	7	8	-25	-2	2	4	-25	-4	1	3	6	5	4	6
10,000	-4.6	-18	-15	-9	-7	-12	-8	-6	-2	-1	4	6	8	-8	-4	0	2	-10	-5	-1	2	6	5	4	6
LONDON TO SAN JUAN																						3632 N.MI.			
55,000	-56.5	-66	-8	-5	-4	-62	-5	-3	-2	-61	-4	-2	-1	-65	-8	-6	-5	-63	-6	-4	-2	4	3	3	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	4	-55	2	4	5	-56	1	3	5	-56	0	3	5	5	5	3	4
30,000	-44.5	-46	1	3	4	-42	2	4	5	-37	7	9	10	-39	6	8	9	-41	4	7	8	3	3	3	3
20,000	-21.2	-18	3	6	8	-16	5	8	9	-10	11	13	14	-12	9	11	12	-14	7	10	11	4	4	3	3
10,000	-4.6	-2	3	6	7	-0	4	6	8	5	10	11	12	3	7	10	11	1	6	8	10	4	3	2	3
LONDON TO SANTA MARIA																						1362 N.MI.			
55,000	-56.5	-59	-3	0	2	-56	0	3	4	-56	1	3	5	-60	-4	-1	0	-58	-1	2	3	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	3	5	-53	3	6	8	-56	0	3	5	-56	0	4	6	6	6	5	5
30,000	-44.5	-47	-3	-1	1	-45	-1	2	3	-38	6	8	10	-42	3	5	7	-43	1	5	6	4	4	3	4
20,000	-21.2	-22	-1	3	5	-20	2	5	6	-12	9	11	12	-15	6	9	10	-17	4	7	9	5	4	3	4
10,000	-4.6	-5	-1	2	4	-3	2	4	6	4	8	10	11	0	5	7	9	-1	4	7	8	5	4	3	4
LONDON TO SEATTLE																						4157 N.MI.			
55,000	-56.5	-57	-1	3	5	-50	7	10	11	-47	10	12	13	-54	3	5	6	-52	5	8	9	6	4	3	4
40,000	-56.5	-56	1	5	7	-51	6	10	12	-48	8	12	13	-52	4	8	10	-52	5	9	11	6	6	5	5
30,000	-44.5	-54	-10	-7	-5	-50	-6	-3	-1	-44	1	3	4	-48	-4	-1	1	-49	-5	-1	1	4	4	4	4
20,000	-21.2	-34	-13	-9	-7	-29	-8	-5	-3	-19	3	5	7	-26	-4	-0	2	-27	-6	-1	1	6	6	4	6
10,000	-4.6	-20	-15	-11	-9	-14	-10	-6	-4	-3	1	4	5	-11	-6	-2	-0	-12	-7	-3	-1	6	5	4	5
LONDON TO SHANGHAI																						4972 N.MI.			
55,000	-56.5	-54	1	4	6	-52	5	7	9	-49	8	10	11	-55	2	4	6	-53	4	7	9	5	4	4	4
40,000	-56.5	-57	-1	3	4	-52	5	9	11	-48	8	12	14	-53	4	7	9	-52	4	8	11	5	6	5	5
30,000	-44.5	-55	-8	-6	-4	-48	-3	-0	2	-36	8	11	13	-45	-1	2	4	-45	-1	4	7	4	5	5	5
20,000	-21.2	-31	-10	-6	-4	-25	-3	0	2	-12	9	12	13	-21	-0	4	6	-22	-1	4	6	6	5	4	6
10,000	-4.6	-17	-12	-8	-6	-10	-5	-2	0	3	7	9	11	-7	-2	1	3	-8	-5	3	4	6	5	4	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	D50*	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
LONDON TO SHANNON																									521 N.MI.
55,000	-56.5	-58	-1	2	4	-54	3	6	7	-50	6	9	10	-57	-1	2	4	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-1	3	5	-55	2	6	9	-51	6	10	12	-56	1	4	6	-55	2	6	9	7	7	6	5
30,000	-44.5	-50	-5	-3	-1	-47	-2	0	1	-41	4	6	8	-44	0	3	5	-45	-1	3	4	4	4	4	4
20,000	-21.2	-25	-4	-0	2	-23	-1	2	4	-15	7	9	10	-19	3	6	8	-20	1	4	6	6	5	3	5
10,000	- 4.6	-9	-4	-1	1	-6	-2	1	3	1	5	8	9	-3	2	5	7	-4	0	4	5	5	4	3	4
LONDON TO SONDRESTROMFJORD																									1732 N.MI.
55,000	-56.5	-58	-1	3	5	-50	7	9	11	-46	10	13	14	-54	2	5	6	-52	5	8	10	6	4	3	4
40,000	-56.5	-56	0	5	7	-51	6	10	13	-48	9	12	14	-53	4	8	10	-52	5	9	11	7	7	5	6
30,000	-44.5	-52	-8	-5	-4	-48	-4	-1	0	-44	1	3	5	-47	-2	1	2	-48	-3	0	2	4	4	4	5
20,000	-21.2	-30	-9	-5	-3	-28	-6	-3	-1	-18	3	5	7	-24	-2	1	3	-25	-4	0	2	6	6	4	6
10,000	- 4.6	-14	-10	-6	-5	-12	-8	-4	-2	-3	1	4	5	-8	-4	-0	1	-10	-5	-1	1	5	5	3	5
LONDON TO STOCKHOLM																									789 N.MI.
55,000	-56.5	-58	-1	2	4	-53	4	6	8	-48	7	11	12	-57	-0	3	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	2	4	-54	3	7	10	-50	7	11	13	-56	1	4	6	-55	2	7	9	6	7	6	5
30,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-0	-42	3	5	7	-45	-1	2	3	-47	-2	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-1	-24	-3	0	2	-16	6	8	9	-20	1	5	6	-22	-1	3	5	6	5	3	5
10,000	- 4.6	-13	-8	-4	-2	-8	-4	-1	1	-0	4	7	8	-5	-1	3	4	-7	-2	2	3	6	5	3	5
LONDON TO TEHERAN																									2382 N.MI.
55,000	-56.5	-57	-0	3	5	-55	1	4	5	-55	2	4	5	-59	-2	0	2	-56	0	3	4	5	4	3	4
40,000	-56.5	-57	-1	2	4	-55	1	5	6	-49	8	10	12	-56	0	3	5	-54	2	6	8	5	5	4	4
30,000	-44.5	-51	-4	-4	-2	-46	-2	1	2	-36	8	11	12	-43	2	4	6	-44	0	4	7	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-21	1	4	5	-11	10	13	14	-17	4	7	9	-19	3	6	8	5	5	3	4
10,000	- 4.6	-11	-6	-3	-1	-4	0	3	5	5	9	11	12	-1	4	6	8	-3	2	5	7	6	5	3	4
LONDON TO TEL AVIV-JAFFA																									1937 N.MI.
55,000	-56.5	-58	-1	2	4	-56	0	3	4	-58	-2	1	2	-60	-4	-1	0	-56	-2	1	3	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-0	4	5	-49	7	10	11	-54	0	3	4	-55	2	5	7	5	5	4	4
30,000	-44.5	-50	-5	-3	-1	-44	-2	1	2	-36	9	11	12	-42	2	5	6	-43	1	5	7	4	4	3	4
20,000	-21.2	-25	-3	-0	1	-20	1	4	5	-10	11	13	14	-14	5	8	9	-18	3	7	9	5	4	3	4
10,000	- 4.6	-9	-4	-1	1	-4	1	4	5	5	10	12	13	0	5	7	9	-2	3	6	8	5	4	3	4
LONDON TO THULE																									2128 N.MI.
55,000	-56.5	-59	-3	1	3	-49	8	11	12	-45	12	14	15	-54	3	5	7	-52	5	8	10	6	4	3	4
40,000	-56.5	-56	-1	3	5	-50	7	11	13	-46	10	14	15	-52	4	8	10	-51	5	9	12	6	6	5	5
30,000	-44.5	-55	-10	-7	-6	-50	-5	-2	-1	-45	-0	2	4	-49	-4	-1	0	-50	-5	-1	0	4	4	4	4
20,000	-21.2	-32	-11	-7	-5	-31	-9	-6	-4	-20	1	4	5	-26	-5	-1	0	-27	-6	-2	0	6	5	4	5
10,000	- 4.6	-17	-12	-9	-7	-15	-11	-7	-5	-5	-0	2	3	-11	-7	-3	-2	-12	-7	-4	-2	5	5	3	5
LONDON TO TOKYO																									5175 N.MI.
55,000	-56.5	-56	0	4	6	-50	7	9	11	-47	9	12	13	-53	3	6	7	-52	5	8	10	5	4	4	4
40,000	-56.5	-57	-1	3	5	-50	6	10	12	-48	8	12	14	-52	4	8	10	-52	4	9	11	5	4	6	5
30,000	-44.5	-55	-10	-7	-6	-47	-5	-2	-0	-38	7	10	11	-47	-2	1	2	-47	-3	2	5	4	4	5	5
20,000	-21.2	-35	-14	-10	-8	-28	-7	-3	-1	-16	7	10	12	-24	-3	1	3	-25	-4	1	4	5	6	4	6
10,000	- 4.6	-21	-14	-13	-11	-14	-9	-5	-3	1	6	8	9	-10	-6	-2	-0	-11	-6	-1	1	5	5	4	5
LONDON TO TORONTO																									3080 N.MI.
55,000	-56.5	-54	0	3	5	-53	4	7	8	-51	6	8	10	-55	1	4	5	-54	3	4	8	4	4	4	4
40,000	-56.5	-54	3	7	9	-53	4	8	11	-51	6	9	11	-53	3	7	9	-53	4	8	10	6	7	5	6
30,000	-44.5	-50	-6	-3	-1	-48	-3	-1	1	-41	3	6	7	-45	-0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-3	-1	-25	-4	-0	2	-15	6	9	10	-21	1	4	6	-22	-1	3	5	7	5	4	6
10,000	- 4.6	-15	-10	-6	-4	-10	-5	-2	0	-0	4	7	8	-5	-1	3	5	-8	-3	1	3	7	5	3	5
LONDON TO TRINIDAD																									3827 N.MI.
55,000	-56.5	-64	-10	-7	-6	-65	-8	-6	-5	-63	-7	-5	-4	-67	-10	-8	-7	-65	-9	-6	-5	4	3	3	3
40,000	-56.5	-57	-0	3	5	-57	-0	1	4	-54	2	4	4	-55	1	3	5	-56	1	3	5	5	5	3	3
30,000	-44.5	-42	2	4	5	-40	4	4	7	-38	8	10	11	-37	7	9	10	-39	5	8	9	3	3	3	3
20,000	-21.2	-16	5	8	9	-14	7	9	10	-10	12	13	14	-11	10	12	13	-13	8	11	12	4	3	2	3
10,000	- 4.6	0	5	7	8	1	6	8	9	6	10	12	13	4	9	11	12	5	7	10	11	4	3	2	3
LONDON TO TRIPOLI																									1276 N.MI.
55,000	-56.5	-58	-2	1	3	-57	-0	2	4	-58	-2	1	2	-60	-4	-2	-0	-58	-2	1	3	5	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-0	3	5	-51	5	8	9	-56	0	3	4	-56	1	5	6	6	6	4	4
30,000	-44.5	-48	-4	-1	-0	-46	-1	1	3	-37	7	9	11	-42	3	5	7	-43	1	5	6	4	4	3	4
20,000	-21.2	-25	-2	1	3	-19	2	4	5	-11	10	12	13	-15	6	8	9	-17	4	7	9	5	4	3	3
10,000	- 4.6	-6	-2	1	3	-3	2	5	6	6	11	13	14	0	5	7	7	-1	4	7	9	5	4	3	4
LONDON TO TUNIS																									988 N.MI.
55,000	-56.5	-58	-1	2	4	-56	1	3	5	-56	0	3	4	-60	-3	-1	1	-57	-1	2	4	5	4	4	4
40,000	-56.5	-56	-1	3	5	-57	-1	3	5	-52	5	7	9	-56	0	3	4	-56	1	4	6	6	6	4	4
30,000	-44.5	-49	-4	-2	-0	-46	-2	1	2	-38	6	9	10	-42	2	5	6	-44	1	4	6	4	4	3	4
20,000	-21.2	-24	-3	0	2	-20	1	4	5	-12	9	11	13	-16	5	8	9	-18	3	7	8	5	4	3	4
10,000	- 4.6	-7	-2	1	3	-3	1	4	5	5	10	12	13	-0	4	7	8	-1	3	7	8	5	4	3	4
LONDON TO VANCOUVER																									4090 N.MI.
55,000	-56.5	-57	-1	3	5	-49	7	10	11	-47	10	12	13	-54	3	5	7	-52	5	8	10	6	4	3	4
40,000	-56.5	-56	0	5	7	-51	6	10	12	-48	8	12	14	-52	4	8	10	-52	5	9	11	6	6	5	5
30,000	-44.5	-54	-10	-7	-5	-50	-6	-3	-1	-44	0	3	4	-48	-4	-1	1	-49	-5	-1	1	4	4	4	4
20,000	-21.2	-34	-13	-9	-7	-30	-9	-5	-3	-19	2	5	6	-26	-5	-1	1	-27	-6	-2	1	6	6	4	6
10,000	- 4.6	-20	-16	-11	-9	-15	-10	-7	-5	-4	1	4	5	-11	-6	-3	-1	-12	-8	-4	-1	6	5	4	5
LONDON TO VENICE																									620 N.MI.
55,000	-56.5	-57	-0	3	5	-54	2	5	6	-52	5	7	8	-58	-2	1	2	-55	1	4	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-0	4	6	-52	5	8	10	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-40	5	7	8	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-13	8	10	11	-17	4	7	8	-20	2	5	7	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-6	-1	2	3	2	7	9	10	-2	3	6	7	-4	1	4	6	5	4	3	4
LONDON TO VIENNA																									687 N.MI.
55,000	-56.5	-56	0	3	5	-54	3	5	7	-51	6	8	9	-58	-1	1	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	5	9	10	-56	0	3	5	-55	1	5	7	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	1	-40	4	7	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-5	-2	0	-22	-1	2	4	-14	7	10	11	-18	3	6	8	-20	1	5	6	6	5	3	5
10,000	- 4.6	-11	-6	-3	-1	-6	-2	1	3	2	6	9	10	-2	2	5	7	-4	0	4	6	6	4	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
LONDON TO WARSAW																									795 N.MI.
55,000	-56.5	-57	-0	1	5	-55	3	4	7	-49	7	9	11	-57	-1	2	3	-54	2	4	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	4	8	-51	4	9	11	-56	0	4	5	-55	1	4	8	4	4	5	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-41	4	4	8	-44	0	3	4	-44	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-0	-23	-2	1	3	-16	7	9	10	-19	2	4	8	-21	0	4	4	4	5	3	5
10,000	-4.6	-12	-7	-4	-1	-7	-3	0	2	1	6	4	9	-4	1	4	6	-6	-1	3	5	6	5	3	5
LONDON TO WELLINGTON																									10161 N.MI.
55,000	-56.5	-45	-9	-4	-4	-60	-4	-1	0	-58	-2	1	2	-62	-5	-3	-2	-61	-5	-2	-0	4	4	3	3
40,000	-56.5	-55	1	4	4	-52	5	8	10	-51	6	9	10	-53	4	4	8	-53	4	7	9	4	5	4	4
30,000	-44.5	-45	-0	2	3	-43	2	4	5	-38	7	9	11	-42	3	5	7	-42	3	4	8	4	4	4	4
20,000	-21.2	-22	-1	2	3	-20	1	4	5	-12	9	11	12	-18	3	4	7	-18	3	4	8	4	4	3	4
10,000	-4.6	-8	-3	-1	1	-5	-1	2	3	5	7	9	10	-3	2	4	5	-3	1	4	4	4	4	3	4
LONDON TO ZURICH																									625 N.MI.
55,000	-56.5	-57	-0	3	5	-56	2	5	4	-51	5	8	9	-58	-2	1	3	-55	1	5	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-56	0	5	7	-52	5	8	10	-56	0	3	5	-56	1	5	7	4	4	5	5
30,000	-44.5	-50	-4	-3	-2	-47	-3	-0	1	-40	4	7	8	-44	1	4	5	-45	-3	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-16	8	10	11	-18	3	7	8	-20	1	5	7	4	5	3	5
10,000	-4.6	-10	-5	-1	1	-6	-1	2	3	2	7	9	10	-2	3	4	7	-4	1	4	4	5	4	3	4
LOS ANGELES TO MADRID																									5065 N.MI.
55,000	-56.5	-58	-1	2	3	-55	2	4	4	-55	2	4	4	-58	-1	1	3	-56	0	3	5	5	4	4	4
40,000	-56.5	-55	2	4	8	-55	2	4	8	-52	4	7	9	-54	2	4	8	-54	2	4	8	4	4	4	5
30,000	-44.5	-50	-5	-3	-1	-44	-3	-1	1	-40	5	7	9	-44	1	3	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-28	-7	-3	-0	-23	-2	1	1	-13	8	11	12	-10	2	4	8	-21	0	4	7	4	5	3	5
10,000	-4.6	-13	-9	-5	-2	-7	-3	1	3	3	8	10	11	-4	1	5	7	-5	-1	3	4	4	5	3	5
LOS ANGELES TO MAZATLAN																									899 N.MI.
55,000	-56.5	-69	-13	-10	-9	-68	-11	-9	-8	-71	-16	-13	-12	-72	-16	-16	-13	-70	-13	-11	-9	3	3	2	1
40,000	-56.5	-56	0	3	5	-57	-1	2	3	-56	2	3	4	-55	2	3	4	-56	1	2	1	5	4	2	3
30,000	-44.5	-42	3	5	4	-40	4	4	7	-33	11	13	13	-36	8	10	11	-38	7	9	10	3	2	2	3
20,000	-21.2	-16	7	4	11	-13	8	11	12	-6	15	16	16	-9	12	14	15	-11	11	13	14	4	1	1	3
10,000	-4.6	3	7	10	12	4	11	13	14	11	14	17	18	8	13	14	15	7	12	14	15	4	4	2	3
LOS ANGELES TO MELBOURNE																									6885 N.MI.
55,000	-56.5	-75	-18	-16	-15	-75	-16	-16	-11	-72	-15	-13	-12	-72	-15	-13	-12	-75	-16	-16	-13	3	3	3	3
40,000	-56.5	-56	2	4	4	-55	2	4	5	-56	2	4	5	-56	2	4	5	-56	2	4	5	3	3	2	3
30,000	-44.5	-35	9	11	12	-36	8	10	11	-36	9	10	11	-36	9	10	11	-36	9	11	12	3	3	2	1
20,000	-21.2	-9	13	14	15	-10	11	13	14	-10	12	13	14	-9	12	13	14	-9	12	14	14	2	2	2	2
10,000	-4.6	7	12	14	14	4	11	13	13	4	11	12	13	7	11	13	14	7	11	13	14	2	2	2	2
LOS ANGELES TO MEXICO CITY																									1368 N.MI.
55,000	-56.5	-71	-16	-12	-11	-69	-13	-10	-9	-71	-15	-13	-13	-76	-17	-15	-16	-71	-15	-12	-11	3	3	2	1
40,000	-56.5	-56	0	1	5	-57	-0	2	3	-55	2	3	4	-55	2	3	4	-54	1	2	3	4	4	2	1
30,000	-44.5	-41	4	4	7	-39	5	7	7	-31	12	13	13	-35	9	11	12	-37	7	9	11	2	2	2	2
20,000	-21.2	-11	8	10	12	-11	10	12	13	-6	15	16	16	-8	11	14	15	-10	11	13	14	4	3	1	2
10,000	-4.6	4	8	11	17	7	12	14	15	11	16	17	17	8	13	15	16	8	12	14	15	4	3	1	2
LOS ANGELES TO MILAN																									5252 N.MI.
55,000	-56.5	-57	-1	1	5	-55	4	7	8	-51	5	7	9	-56	0	3	4	-56	2	5	7	5	4	1	4
40,000	-56.5	-55	1	4	8	-55	3	8	10	-51	4	9	11	-55	3	7	9	-55	3	7	9	4	4	5	5
30,000	-44.5	-52	-7	-5	-3	-46	-4	-1	-0	-41	3	4	7	-46	-1	2	3	-47	-2	1	3	4	4	4	4
20,000	-21.2	-31	-9	-5	-3	-26	-5	-1	1	-15	4	8	10	-22	-0	3	5	-25	-2	2	4	4	5	4	5
10,000	-4.6	-16	-11	-7	-5	-10	-4	-2	0	1	5	8	9	-6	-2	2	4	-8	-3	1	3	4	5	4	4
LOS ANGELES TO OSLO																									4456 N.MI.
55,000	-56.5	-59	-2	2	4	-51	4	9	10	-49	7	9	10	-55	1	3	5	-54	3	4	7	4	4	3	1
40,000	-56.5	-57	-0	4	4	-52	5	9	11	-44	8	11	12	-55	4	7	4	-52	4	8	10	4	4	4	5
30,000	-44.5	-54	-10	-7	-5	-50	-5	-3	-1	-43	2	4	5	-48	-1	-0	1	-48	-4	-1	1	4	4	3	4
20,000	-21.2	-33	-12	-8	-4	-29	-8	-4	-2	-17	4	4	8	-26	-1	0	2	-26	-5	-1	2	4	5	4	5
10,000	-4.6	-19	-16	-10	-8	-15	-9	-5	-5	-1	4	4	7	-9	-5	-1	1	-11	-4	-2	1	4	4	4	4
LOS ANGELES TO PANAMA																									2611 N.MI.
55,000	-56.5	-75	-17	-15	-14	-72	-15	-13	-12	-72	-16	-16	-13	-75	-19	-17	-16	-71	-17	-16	-13	3	3	2	3
40,000	-56.5	-55	1	3	5	-56	1	1	4	-55	1	1	1	-56	2	3	4	-55	1	3	4	3	3	2	2
30,000	-44.5	-38	4	8	9	-37	9	9	10	-33	12	13	13	-36	11	12	11	-35	9	11	12	2	2	2	2
20,000	-21.2	-11	11	11	14	-9	12	14	15	-6	15	16	16	-7	14	15	16	-8	13	14	15	3	2	1	2
10,000	-4.6	5	10	12	11	8	13	14	16	11	15	16	17	9	14	15	16	8	11	14	15	3	1	1	2
LOS ANGELES TO PAPEETE																									3545 N.MI.
55,000	-56.5	-78	-21	-19	-18	-76	-19	-17	-16	-76	-18	-16	-15	-75	-18	-16	-15	-75	-19	-17	-16	3	3	3	1
40,000	-56.5	-55	2	4	4	-55	2	4	5	-55	2	3	4	-56	2	4	4	-55	2	4	4	1	3	2	2
30,000	-44.5	-35	9	11	12	-35	10	11	12	-33	11	12	13	-36	11	12	13	-36	10	12	11	2	2	2	2
20,000	-21.2	-8	13	15	15	-9	13	14	15	-7	14	15	16	-7	14	16	16	-8	14	15	15	2	2	2	2
10,000	-4.6	8	12	14	15	8	11	14	15	9	14	15	16	9	14	15	16	9	11	14	15	2	2	2	2
LOS ANGELES TO PARIS																									4911 N.MI.
55,000	-56.5	-57	-1	3	5	-55	4	4	8	-51	5	7	9	-56	0	1	4	-54	2	5	7	5	4	3	4
40,000	-56.5	-55	1	6	8	-55	4	8	10	-51	6	9	11	-55	3	7	9	-55	4	7	9	6	4	5	5
30,000	-44.5	-52	-7	-5	-3	-48	-4	-1	-0	-41	1	4	7	-44	-1	2	3	-47	-2	1	3	4	4	4	4
20,000	-21.2	-31	-10	-5	-1	-26	-5	-1	1	-15	4	8	10	-22	-0	3	5	-25	-2	2	4	4	5	4	4
10,000	-4.6	-16	-11	-7	-5	-10	-4	-2	-0	1	6	8	9	-4	-2	2	4	-8	-1	1	1	4	5	4	5
LOS ANGELES TO ROME																									5516 N.MI.
55,000	-56.5	-57	-1	3	5	-51	4	6	8	-52	5	7	8	-57	-0	3	4	-55	2	5	6	5	4	3	4
40,000	-56.5	-55	1	5	8	-55	3	7	9	-51	6	9	11	-56	1	6	8	-55	3	7	9	6	6	5	5
30,000	-44.5	-52	-7	-4	-3	-48	-4	-1	0	-41	3	6	7	-45	-1	2	3	-47	-2	1	3	4	4	4	4
20,000	-21.2	-30	-9	-5	-3	-25	-4	-1	1	-15	6	9	10	-21	-0	4	5	-25	-2	2	5	4	5	4	5
10,000	-4.6	-15	-11	-7	-4	-10	-5	-2	0	1	6	8	9	-6	-1	2	4	-7	-3	1	4	6	5	4	5
LOS ANGELES TO SAN JUAN																									2937 N.MI.
55,000	-56.5	-71	-16	-12	-11	-69	-12	-10	-9	-70	-16	-12	-12	-75	-17	-15	-16	-71	-16	-12	-11	3	3	2	3
40,000	-56.5	-56	0	3	4	-57	-0	2	1	-55	1	2	3	-55	2	3	4	-56	1	3	4	4	3	2	2
30,000	-44.5	-40	4	6	7	-39	6	7	8	-33	11	13	13	-35	9	11	12	-37	8	10	11	2	2	2	2
20,000	-21.2	-13	8	11	12	-11	10	12	13	-6	15	16	16	-8	13	15	16	-10	12	13	14	3	3	1	2
10,000	-4.6	3	8	10	11	6	10	12	14	10	15	16	16	8	12	14	15	7	11	13	14	3	3	1	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
LOS ANGELES TO SANTA MARIA																									4559 N.MI.
55,000	-56.5	-60	-3	-0	1	-57	-1	2	3	-60	-3	-1	0	-62	-5	-2	-1	-60	-3	-0	1	4	4	3	4
40,000	-56.5	-56	0	5	7	-56	0	4	6	-54	2	5	6	-55	1	4	6	-55	1	4	5	6	6	4	5
30,000	-44.5	-48	-3	-1	1	-46	-1	1	2	-37	8	10	11	-41	3	6	7	-43	1	5	7	4	3	3	4
20,000	-21.2	-24	-2	1	3	-20	1	4	5	-10	11	13	14	-15	6	9	11	-17	4	7	9	6	4	3	4
10,000	-4.6	-9	-4	-0	2	-4	0	4	5	6	11	13	14	1	5	8	10	-2	3	7	9	6	5	3	5
LOS ANGELES TO SHANNON																									4437 N.MI.
55,000	-56.5	-57	-1	3	5	-53	4	6	8	-52	5	7	8	-56	0	3	4	-55	2	5	6	5	4	3	4
40,000	-56.5	-55	2	6	9	-53	4	8	10	-51	6	9	10	-53	3	7	9	-53	4	7	9	7	6	5	5
30,000	-44.5	-52	-7	-4	-3	-48	-4	-1	-0	-41	3	6	7	-46	-1	2	3	-47	-2	1	3	6	4	6	4
20,000	-21.2	-31	-10	-6	-3	-26	-5	-1	1	-15	6	9	10	-22	-0	3	5	-23	-2	2	4	6	5	6	5
10,000	-4.6	-16	-12	-7	-5	-10	-6	-2	0	1	6	8	10	-6	-2	2	4	-8	-3	1	3	6	6	4	6
LOS ANGELES TO STOCKHOLM																									4785 N.MI.
55,000	-56.5	-59	-2	1	3	-51	6	8	10	-49	8	10	11	-55	1	4	5	-53	3	6	7	6	4	3	3
40,000	-56.5	-57	-1	4	6	-51	5	9	11	-49	8	11	12	-53	4	7	9	-52	4	8	10	6	6	4	5
30,000	-44.5	-55	-10	-7	-6	-50	-6	-3	-1	-43	1	4	5	-48	-4	-1	1	-49	-6	-1	1	4	4	3	4
20,000	-21.2	-34	-13	-9	-6	-29	-8	-5	-3	-18	4	6	7	-25	-4	-0	2	-26	-5	-1	1	6	5	4	5
10,000	-4.6	-19	-15	-10	-8	-14	-9	-6	-4	-1	3	6	7	-10	-5	-2	0	-11	-7	-2	0	6	6	4	5
LOS ANGELES TO TOKYO																									4756 N.MI.
55,000	-56.5	-54	2	6	8	-55	2	5	7	-56	0	3	4	-58	-1	2	3	-56	1	5	6	5	5	6	4
40,000	-56.5	-52	5	9	11	-54	2	6	8	-51	5	8	10	-53	3	7	8	-53	4	7	9	6	6	4	5
30,000	-44.5	-46	-2	1	3	-45	-0	2	3	-36	8	11	12	-41	4	6	8	-42	2	6	8	4	4	4	4
20,000	-21.2	-24	-2	1	3	-21	-0	3	5	-10	11	13	15	-18	3	7	8	-18	3	7	9	5	5	3	5
10,000	-4.6	-8	-4	-0	1	-7	-2	1	2	5	9	11	12	-3	2	4	6	-3	1	5	7	5	5	3	4
LOS ANGELES TO VANCOUVER																									939 N.MI.
55,000	-56.5	-60	-4	-1	1	-58	-1	1	3	-61	-4	-2	-1	-63	-6	-4	-2	-60	-4	-1	1	4	4	3	4
40,000	-56.5	-58	-1	4	6	-57	-1	3	5	-54	2	4	6	-56	0	3	5	-56	0	3	5	7	6	3	4
30,000	-44.5	-48	-3	-1	0	-46	-1	1	2	-38	7	9	10	-41	3	6	7	-43	1	4	6	6	3	3	3
20,000	-21.2	-22	-1	3	5	-20	1	4	8	-10	11	13	14	-15	6	9	11	-17	4	8	9	6	4	2	3
10,000	-4.6	-6	-2	2	5	-3	1	4	6	8	13	15	16	1	5	9	11	-0	4	8	10	6	5	3	5
LOS ANGELES TO VIENNA																									5317 N.MI.
55,000	-56.5	-58	-1	2	4	-52	5	7	9	-50	7	9	10	-56	1	3	4	-54	3	6	7	5	4	3	4
40,000	-56.5	-56	0	5	7	-52	4	8	10	-49	7	10	12	-53	3	7	9	-53	4	7	10	6	6	5	5
30,000	-44.5	-53	-9	-6	-4	-49	-5	-2	-1	-42	2	5	6	-47	-2	1	2	-48	-3	0	2	4	4	4	4
20,000	-21.2	-32	-11	-7	-5	-27	-6	-2	-0	-16	5	7	9	-23	-2	2	4	-25	-3	1	3	6	5	4	5
10,000	-4.6	-17	-12	-8	-6	-12	-7	-3	-1	-0	4	7	8	-8	-3	1	3	-9	-5	-0	2	6	5	4	6
LOS ANGELES TO WINNIPEG																									1337 N.MI.
55,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-62	-5	-3	-2	-63	-6	-4	-2	-61	-4	-1	0	4	4	3	4
40,000	-56.5	-56	1	5	7	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	1	3	5	7	5	3	4
30,000	-44.5	-49	-5	-2	-1	-47	-2	-0	1	-37	8	10	11	-42	3	5	6	-44	1	4	6	4	3	3	3
20,000	-21.2	-25	-4	1	3	-20	1	4	5	-9	12	14	14	-15	6	9	10	-17	4	7	9	6	6	2	4
10,000	-4.6	-9	-5	-0	2	-3	2	5	7	10	15	17	18	1	6	9	11	-0	4	9	11	7	5	3	5
LOS ANGELES TO ZURICH																									5145 N.MI.
55,000	-56.5	-58	-1	3	5	-52	4	7	8	-51	6	8	9	-56	0	3	4	-54	2	5	7	5	4	3	4
40,000	-56.5	-55	1	5	8	-53	4	8	10	-50	6	9	11	-53	3	7	9	-53	4	7	9	6	6	5	5
30,000	-44.5	-52	-8	-5	-3	-49	-4	-2	-0	-42	3	5	7	-46	-1	1	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-31	-10	-6	-3	-26	-5	-1	1	-16	6	8	9	-22	-1	3	5	-24	-2	2	4	6	5	4	5
10,000	-4.6	-16	-11	-7	-5	-11	-6	-2	-0	1	5	8	9	-7	-2	2	4	-8	-4	1	3	6	5	4	6
LOURENCO MARQUES TO LUANDA																									1504 N.MI.
55,000	-56.5	-75	-19	-16	-15	-74	-17	-15	-14	-68	-12	-10	-8	-71	-14	-12	-11	-72	-16	-13	-11	4	4	3	3
40,000	-56.5	-52	4	7	8	-52	4	7	8	-52	5	7	8	-52	4	6	7	-52	4	6	8	3	3	3	3
30,000	-44.5	-31	14	15	16	-33	12	14	14	-34	10	12	13	-33	11	13	14	-33	12	14	15	2	3	3	3
20,000	-21.2	-5	16	17	16	-7	14	16	18	-8	13	15	16	-7	14	15	18	-7	14	16	16	1	2	2	2
10,000	-4.6	10	15	16	16	8	13	14	15	4	9	11	11	9	14	15	18	8	13	14	15	2	2	2	2
LUANDA TO LISBON																									3118 N.MI.
55,000	-56.5	-73	-16	-14	-13	-72	-15	-13	-12	-73	-16	-15	-14	-73	-17	-15	-14	-73	-16	-14	-13	3	3	3	3
40,000	-56.5	-55	2	4	5	-53	3	6	7	-53	4	5	6	-53	3	5	6	-53	3	5	6	3	4	2	2
30,000	-44.5	-38	7	8	9	-34	10	12	13	-33	12	13	14	-34	11	12	13	-35	10	12	13	2	2	2	2
20,000	-21.2	-11	10	12	12	-9	12	14	15	-6	15	16	17	-8	14	15	15	-8	13	14	15	2	2	2	2
10,000	-4.6	6	10	12	12	7	12	13	14	11	16	17	17	8	13	14	15	8	13	15	15	2	2	2	2
LYDDA TO NAIROBI																									2000 N.MI.
55,000	-56.5	-74	-18	-16	-15	-74	-17	-15	-14	-75	-19	-17	-16	-75	-19	-17	-16	-75	-18	-16	-15	3	3	3	3
40,000	-56.5	-54	3	4	5	-53	4	6	7	-51	6	7	8	-53	4	5	6	-52	4	6	7	2	3	2	2
30,000	-44.5	-36	8	10	11	-33	12	13	14	-29	16	17	18	-32	12	14	14	-31	12	14	15	2	2	2	2
20,000	-21.2	-9	12	14	15	-8	14	15	16	-4	17	18	19	-7	14	15	16	-7	14	16	17	2	2	2	2
10,000	-4.6	7	12	13	14	8	13	14	15	13	17	18	19	9	14	15	16	9	14	16	17	2	2	2	2
MADRAS TO NEW DELHI																									950 N.MI.
55,000	-56.5	-75	-18	-16	-15	-72	-15	-12	-11	-76	-19	-16	-15	-76	-19	-17	-16	-75	-18	-15	-13	3	4	5	4
40,000	-56.5	-56	1	4	6	-53	4	7	8	-49	7	11	12	-54	3	6	8	-53	4	8	10	5	4	5	5
30,000	-44.5	-36	9	12	13	-34	10	13	15	-27	17	19	21	-32	12	15	16	-32	12	15	17	4	4	3	3
20,000	-21.2	-10	11	13	14	-8	13	15	17	-3	18	20	21	-6	15	17	18	-7	14	17	18	3	3	2	3
10,000	-4.6	6	10	12	13	10	14	16	17	12	17	18	19	8	13	14	15	9	13	15	16	3	3	2	2
MADRID TO MEXICO CITY																									4895 N.MI.
55,000	-56.5	-64	-8	-5	-4	-62	-5	-3	-2	-63	-7	-5	-3	-66	-10	-7	-6	-64	-7	-5	-3	4	4	3	4
40,000	-56.5	-58	-1	2	4	-57	-1	2	4	-55	1	3	4	-56	1	3	5	-56	0	2	4	5	5	3	4
30,000	-44.5	-44	1	3	4	-43	2	4	5	-36	9	11	12	-39	6	8	9	-40	4	7	9	3	3	3	3
20,000	-21.2	-18	4	7	8	-16	5	8	9	-9	12	14	15	-12	9	12	13	-14	8	10	12	4	4	2	3
10,000	-4.6	-2	2	5	7	0	5	7	9	6	11	12	13	3	8	10	11	2	7	9	10	4	4	2	3
MADRID TO MILAN																									620 N.MI.
55,000	-56.5	-58	-1	2	4	-56	0	3	5	-57	-0	2	3	-60	-4	-1	0	-58	-1	2	3	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-2	2	4	-53	3	6	7	-57	-0	3	4	-57	-0	3	5	6	5	4	4
30,000	-44.5	-48	-4	-1	0	-46	-2	1	3	-38	7	9	10	-42	3	5	7	-44	1	4	6	4	4	3	4
20,000	-21.2	-23	-2	1	3	-20	2	4	5	-11	10	12	13	-16	6	8	9	-17	4	7	9	5	4	3	4
10,000	-4.6	-6	-2	2	3	-3	2	4	6	6	10	12	14	0	5	7	8	-1	4	7	9	5	4	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D*50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
MADRID TO MOSCOW																									1846 N.MI.
55,000	-56.5	-57	-0	3	5	-54	2	5	6	-51	5	8	9	-58	-1	1	3	-55	2	5	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	0	4	6	-52	5	8	10	-56	1	4	5	-56	1	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-48	-3	-0	1	-40	5	7	9	-44	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	4	-13	8	10	11	-18	3	6	8	-20	1	5	7	5	5	3	5
10,000	- 4.6	-11	-7	-3	-1	-4	-1	2	3	2	7	9	10	-3	2	5	6	-4	0	4	6	5	5	3	5
MADRID TO MUNICH																									709 N.MI.
55,000	-56.5	-58	-1	2	4	-54	1	3	5	-55	1	3	5	-60	-3	-1	1	-57	-1	2	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	2	4	-53	3	6	8	-56	0	3	4	-56	0	4	6	6	6	4	4
30,000	-44.5	-49	-4	-2	-0	-46	-2	1	2	-38	6	8	10	-42	2	5	6	-44	1	4	6	4	4	3	4
20,000	-21.2	-24	-3	0	2	-20	1	4	5	-12	9	11	12	-16	5	8	9	-18	3	6	8	5	4	3	4
10,000	- 4.6	-7	-3	1	3	-4	1	4	5	5	9	12	13	-0	4	7	8	-2	3	6	8	5	4	3	4
MADRID TO NAIROBI																									5342 N.MI.
55,000	-56.5	-71	-16	-12	-11	-70	-13	-11	-10	-72	-16	-14	-13	-72	-15	-14	-13	-71	-15	-12	-11	3	3	3	3
40,000	-56.5	-55	2	4	5	-54	3	5	7	-51	5	7	7	-54	3	5	5	-53	3	5	6	3	4	2	2
30,000	-44.5	-39	5	7	8	-35	9	11	11	-32	13	15	15	-35	10	12	12	-35	9	12	13	2	2	2	2
20,000	-21.2	-12	9	11	12	-10	11	13	14	-6	15	17	17	-9	13	14	14	-9	12	14	15	2	2	2	2
10,000	- 4.6	4	9	11	12	7	11	13	14	11	16	17	18	8	12	13	14	8	12	14	15	3	2	2	2
MADRID TO NEW DELHI																									3916 N.MI.
55,000	-56.5	-59	-3	1	2	-58	-1	1	3	-61	-4	-2	-1	-61	-5	-2	-1	-60	-3	-0	1	4	4	4	4
40,000	-56.5	-56	0	3	5	-56	1	4	6	-49	8	11	12	-56	1	4	5	-54	2	4	8	5	5	4	4
30,000	-44.5	-48	-4	-1	0	-44	0	3	5	-33	12	14	16	-41	4	6	8	-41	3	7	10	4	4	4	4
20,000	-21.2	-23	-2	1	3	-17	4	7	8	-8	14	16	17	-15	6	9	10	-16	5	9	11	4	4	3	4
10,000	- 4.6	-7	-3	1	2	-1	4	7	8	9	14	16	17	2	6	9	10	1	5	9	11	5	4	3	4
MADRID TO NEW ORLEANS																									4120 N.MI.
55,000	-56.5	-61	-5	-2	-1	-59	-2	0	2	-60	-4	-1	-0	-63	-6	-4	-2	-61	-4	-1	0	4	4	3	4
40,000	-56.5	-58	-1	3	5	-58	-1	3	4	-55	2	4	5	-56	1	4	5	-56	0	3	5	4	5	4	4
30,000	-44.5	-46	-1	1	3	-44	0	2	4	-37	8	10	11	-40	4	7	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-20	1	4	6	-18	3	6	7	-10	11	13	14	-14	8	10	12	-16	6	9	10	5	4	3	4
10,000	- 4.6	-5	-1	3	5	-2	2	5	7	5	10	12	13	1	6	9	10	-0	4	7	9	5	4	2	4
MADRID TO NEW YORK																									3110 N.MI.
55,000	-56.5	-58	-2	1	2	-56	0	3	4	-57	-1	2	3	-60	-3	-1	1	-58	-1	2	3	4	4	4	4
40,000	-56.5	-57	-0	4	6	-57	-0	4	6	-54	2	5	7	-55	1	4	6	-56	1	4	6	4	6	4	5
30,000	-44.5	-47	-3	0	1	-46	-1	1	3	-38	7	9	10	-42	3	5	7	-43	1	5	7	4	4	4	4
20,000	-21.2	-23	-1	2	4	-20	1	4	5	-11	10	12	13	-15	6	9	10	-17	4	7	9	4	5	3	5
10,000	- 4.6	-8	-4	0	3	-5	0	3	5	4	9	10	12	-1	4	7	8	-2	2	6	7	4	5	3	4
MADRID TO OSLO																									1281 N.MI.
55,000	-56.5	-58	-1	2	4	-54	2	5	6	-52	5	7	8	-58	-2	1	2	-56	1	4	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	5	8	10	-56	0	4	5	-55	1	5	8	4	4	5	5
30,000	-44.5	-50	-5	-3	-1	-47	-3	-0	1	-40	4	7	8	-44	1	3	5	-45	-1	3	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-14	7	10	11	-18	3	6	8	-20	1	5	7	5	4	3	5
10,000	- 4.6	-9	-5	-1	1	-4	-1	2	3	2	7	9	10	-3	2	5	6	-4	1	4	6	5	4	3	4
MADRID TO PANAMA																									4401 N.MI.
55,000	-56.5	-69	-12	-10	-8	-67	-11	-9	-7	-67	-10	-8	-7	-70	-13	-11	-10	-68	-12	-9	-8	3	3	3	3
40,000	-56.5	-56	0	3	4	-57	-0	2	4	-55	2	3	4	-55	1	3	4	-56	1	3	4	4	4	3	3
30,000	-44.5	-41	4	6	7	-39	6	8	8	-35	9	11	12	-36	9	11	12	-38	7	9	10	3	2	2	3
20,000	-21.2	-15	6	10	11	-12	9	11	12	-8	13	14	15	-9	12	14	14	-11	10	12	13	3	3	2	3
10,000	- 4.6	1	7	9	10	3	8	10	11	8	12	13	14	6	11	12	13	5	10	11	12	3	3	2	2
MADRID TO PARIS																									570 N.MI.
55,000	-56.5	-58	-2	2	3	-56	1	3	5	-56	1	3	5	-60	-3	-1	1	-57	-1	2	4	5	4	4	4
40,000	-56.5	-58	-2	2	5	-58	-1	3	5	-53	3	6	8	-56	0	3	5	-56	0	4	6	6	6	4	4
30,000	-44.5	-48	-4	-1	0	-46	-2	1	2	-38	6	8	10	-42	2	5	6	-44	1	4	6	4	4	3	4
20,000	-21.2	-23	-2	1	3	-20	1	4	5	-12	9	11	12	-16	5	8	9	-18	3	7	8	5	4	3	4
10,000	- 4.6	-6	-2	1	3	-3	1	4	5	5	9	11	13	-0	4	7	8	-1	3	7	8	5	4	3	4
MADRID TO RIO DE JANEIRO																									4396 N.MI.
55,000	-56.5	-73	-17	-14	-13	-73	-16	-14	-13	-71	-14	-12	-11	-72	-16	-14	-13	-72	-16	-13	-12	4	3	3	3
40,000	-56.5	-55	2	4	5	-54	2	5	7	-53	4	5	6	-54	3	4	5	-54	3	4	5	4	4	2	3
30,000	-44.5	-37	8	10	10	-34	10	12	13	-33	11	13	13	-34	11	12	13	-34	10	12	13	2	2	2	2
20,000	-21.2	-10	12	13	14	-9	12	14	15	-7	14	15	16	-8	14	15	16	-8	13	14	15	2	2	2	2
10,000	- 4.6	6	11	12	13	7	12	13	14	9	13	15	15	8	13	14	15	8	12	14	15	2	2	2	2
MADRID TO ROME																									734 N.MI.
55,000	-56.5	-58	-2	2	4	-57	-0	2	4	-59	-2	0	1	-61	-4	-2	-1	-59	-2	1	3	5	4	3	3
40,000	-56.5	-58	-1	3	5	-58	-1	2	4	-52	4	7	8	-56	0	3	4	-56	0	4	6	6	5	4	4
30,000	-44.5	-48	-3	-1	0	-46	-1	1	3	-37	7	9	11	-41	3	6	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-23	-2	2	3	-19	2	4	6	-11	10	12	13	-15	6	8	10	-17	4	7	9	5	3	3	3
10,000	- 4.6	-6	-1	2	4	-2	3	5	7	7	12	14	15	1	5	7	9	0	5	8	10	5	4	3	3
MADRID TO SAL ISLAND																									1763 N.MI.
55,000	-56.5	-67	-10	-8	-6	-66	-9	-7	-6	-68	-12	-10	-9	-69	-12	-10	-9	-67	-11	-8	-7	4	3	3	3
40,000	-56.5	-57	-0	3	4	-56	0	3	5	-52	4	6	7	-55	1	3	4	-55	1	4	5	4	4	2	3
30,000	-44.5	-42	2	4	5	-39	5	7	8	-35	10	11	12	-37	8	9	10	-38	6	9	10	3	2	2	3
20,000	-21.2	-15	6	8	9	-13	8	10	11	-8	13	14	15	-10	11	13	14	-12	10	12	13	3	3	2	2
10,000	- 4.6	2	6	8	9	3	8	10	11	10	15	16	17	6	10	12	13	5	10	12	13	3	3	2	2
MADRID TO SAN FRANCISCO																									5035 N.MI.
55,000	-56.5	-57	-1	3	4	-53	3	6	7	-52	4	6	8	-57	-0	2	4	-55	2	4	6	5	4	4	4
40,000	-56.5	-55	1	6	8	-54	2	7	9	-52	5	8	10	-54	3	6	8	-54	3	6	8	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-4	-1	0	-41	4	6	8	-45	-0	2	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-30	-8	-4	-2	-25	-3	0	2	-14	7	9	11	-21	1	4	6	-22	-1	3	5	4	5	4	5
10,000	- 4.6	-15	-10	-6	-4	-9	-4	-1	1	2	6	9	10	-5	-1	3	5	-7	-2	2	4	6	5	4	6
MADRID TO SAN JUAN																									3442 N.MI.
55,000	-56.5	-66	-10	-7	-6	-65	-8	-6	-5	-65	-9	-7	-6	-68	-11	-9	-8	-66	-10	-7	-6	4	3	3	3
40,000	-56.5	-57	-1	2	4	-58	-1	2	3	-55	2	4	5	-56	1	3	4	-56	0	2	4	5	4	3	3
30,000	-44.5	-42	2	4	5	-40	4	6	7	-36	9	10	11	-37	8	10	11	-39	6	8	9	3	3	2	3
20,000	-21.2	-15	6	8	9	-14	8	10	11	-9	13	14	15	-10	11	13	14	-12	9	11	13	3	3	2	3
10,000	- 4.6	1	6	8	9	2	7	9	10	7	12	13	14	5	10	12	12	4	9	11	12	3	3	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
MADRID TO SANTA MARIA																									1030 N.MI.
53,000	-56.5	-60	-4	-1	1	-59	-2	1	2	-61	-4	-2	-0	-62	-6	-3	-2	-60	-4	-1	1	5	4	4	3
40,000	-56.5	-59	-2	2	4	-58	-2	2	4	-53	3	6	7	-56	0	3	4	-57	-0	3	5	6	5	4	4
30,000	-44.5	-46	-2	1	2	-44	1	3	4	-37	8	10	11	-40	4	7	8	-42	3	6	7	3	3	3	4
20,000	-21.2	-20	1	4	6	-17	4	6	7	-10	11	13	14	-13	8	10	11	-15	6	9	10	4	4	3	3
10,000	-4.6	-3	2	5	6	-1	4	6	8	7	12	14	15	2	7	9	10	2	6	9	11	4	4	3	3
MADRID TO STOCKHOLM																									1604 N.MI.
51,000	-56.5	-58	-1	2	4	-56	2	5	6	-51	5	7	9	-58	-2	1	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-52	5	8	10	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-1	-1	1	-40	4	7	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-22	-1	2	3	-14	7	10	11	-18	3	6	8	-20	1	5	6	6	4	3	5
10,000	-4.6	-10	-6	-2	0	-6	-1	2	1	2	7	9	10	-3	2	5	6	-4	0	4	6	5	4	3	4
MADRID TO TEHERAN																									2566 N.MI.
51,000	-56.5	-58	-1	2	4	-57	-0	2	1	-61	-4	-2	-1	-61	-4	-2	-0	-59	-2	0	2	5	4	3	4
40,000	-56.5	-57	-0	1	5	-57	-0	3	5	-49	8	10	11	-56	0	3	4	-55	2	5	7	5	4	3	4
30,000	-44.5	-49	-5	-2	-1	-45	-1	2	1	-34	10	13	14	-42	3	5	7	-43	2	6	8	5	5	3	4
20,000	-21.2	-24	-3	0	2	-19	2	5	6	-9	12	14	15	-15	4	8	9	-17	4	8	10	4	4	3	3
10,000	-4.6	-8	-1	-0	2	-2	3	5	7	8	12	14	15	1	6	8	10	-0	4	8	10	5	4	3	4
MADRID TO TEL AVIV-JAFFA																									1913 N.MI.
51,000	-56.5	-60	-3	-0	1	-58	-2	1	2	-66	-7	-5	-4	-62	-6	-4	-2	-61	-4	-2	-0	4	4	3	3
40,000	-56.5	-56	0	3	5	-57	-1	3	5	-49	7	9	11	-56	0	2	4	-55	2	5	7	5	5	3	3
30,000	-44.5	-47	-3	-1	1	-45	-0	2	3	-34	11	11	14	-41	4	6	7	-42	3	7	9	3	3	3	3
20,000	-21.2	-22	-1	2	4	-18	3	6	7	-8	13	15	16	-14	7	9	10	-16	6	9	11	4	3	3	3
10,000	-4.6	-5	-1	2	3	-1	4	6	8	9	11	15	16	2	7	9	10	1	6	9	11	4	4	3	3
MADRID TO TRIPOLI																									929 N.MI.
51,000	-56.5	-60	-4	-1	1	-59	-2	0	2	-63	-7	-4	-3	-62	-6	-4	-3	-61	-5	-2	-0	5	4	3	3
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-51	6	8	9	-56	0	3	4	-55	1	4	6	5	5	3	4
30,000	-44.5	-47	-2	0	1	-44	0	1	4	-35	9	11	12	-40	4	6	8	-42	3	6	9	3	3	3	3
20,000	-21.2	-21	1	3	5	-17	4	6	7	-9	12	14	15	-14	8	9	10	-15	6	9	11	4	3	2	3
10,000	-4.6	-4	1	4	5	3	5	7	8	10	14	16	17	2	7	9	10	2	7	10	12	4	3	3	3
MADRID TO TUNIS																									681 N.MI.
51,000	-56.5	-59	-1	1	2	-58	-1	1	1	-61	-5	-2	-1	-62	-5	-3	-2	-60	-1	-0	1	5	4	3	3
40,000	-56.5	-57	-1	1	5	-57	-1	1	5	-52	5	7	8	-56	0	3	4	-56	1	4	6	6	5	4	4
30,000	-44.5	-47	-2	-0	1	-45	-0	2	1	-36	8	10	11	-41	4	4	8	-42	2	6	7	3	4	3	4
20,000	-21.2	-21	-0	3	4	-18	1	5	7	-10	11	11	14	-14	7	9	10	-16	5	8	10	4	3	3	3
10,000	-4.6	-4	0	3	5	-0	4	6	8	9	11	15	16	2	6	8	9	1	6	9	11	4	4	3	3
MADRID TO VIENNA																									875 N.MI.
51,000	-56.5	-57	-1	1	4	-56	1	4	5	-55	1	4	5	-59	-1	-1	1	-57	-0	2	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	2	4	-53	4	6	8	-56	0	1	4	-56	0	4	6	6	5	4	4
30,000	-44.5	-49	-5	-2	-1	-47	-2	1	2	-38	6	8	10	-42	2	5	6	-46	0	4	6	4	4	3	4
20,000	-21.2	-25	-1	0	2	-20	1	3	5	-12	9	11	12	-16	5	8	9	-16	3	6	6	5	6	3	4
10,000	-4.6	-8	-3	0	2	-4	1	1	5	5	9	11	11	-1	4	7	8	-2	3	6	6	5	4	3	4
MADRID TO WARSAW																									1226 N.MI.
51,000	-56.5	-57	-0	3	5	-55	1	4	6	-53	1	5	7	-59	-2	0	2	-56	0	3	5	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-0	1	5	-52	4	7	9	-56	0	1	5	-56	0	4	6	6	5	4	4
30,000	-44.5	-50	-5	-1	-1	-47	-3	0	1	-39	5	8	9	-43	2	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-25	-4	-1	1	-21	-0	3	4	-13	9	11	12	-17	4	7	9	-19	2	6	7	5	4	3	4
10,000	-4.6	-9	-5	-1	1	-5	-0	1	4	4	8	10	11	-2	3	6	7	-3	2	5	7	5	4	3	4
MADRID TO ZURICH																									669 N.MI.
51,000	-56.5	-58	-1	2	4	-56	0	1	5	-56	1	1	4	-60	-1	-1	0	-57	-1	2	3	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	2	4	-51	1	4	8	-56	0	1	4	-56	0	4	5	6	6	4	4
30,000	-44.5	-49	-4	-1	-0	-46	-2	1	2	-38	6	9	10	-42	2	5	7	-44	1	4	6	4	4	3	4
20,000	-21.2	-26	-2	1	3	-20	1	4	5	-12	9	12	13	-16	5	8	9	-16	3	7	8	5	4	3	4
10,000	-4.6	-7	-2	1	1	-3	1	4	5	5	10	12	13	-0	4	7	8	-1	3	7	9	5	4	3	4
MAKASSAR TO SINGAPORE																									1010 N.MI.
51,000	-56.5	-81	-26	-24	-23	-80	-24	-22	-21	-78	-22	-20	-19	-80	-24	-22	-21	-80	-24	-22	-21	3	3	3	3
40,000	-56.5	-55	2	1	4	-52	5	6	7	-54	2	3	4	-54	2	3	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-11	14	15	15	-11	14	15	16	-11	11	14	15	-12	13	14	14	-31	13	15	15	2	2	2	1
20,000	-21.2	-5	17	17	18	-5	16	17	17	-5	16	16	17	-6	16	16	17	-5	16	17	17	1	1	1	1
10,000	-4.6	10	14	15	15	10	15	16	16	9	11	14	15	4	14	15	15	10	14	15	16	1	1	1	1
MALTA TO NICOSIA																									917 N.MI.
51,000	-56.5	-60	-4	-1	0	-59	-2	0	1	-66	-9	-7	-6	-62	-6	-4	-3	-62	-5	-3	-1	4	3	3	3
40,000	-56.5	-56	1	4	5	-57	-0	3	5	-48	9	11	12	-56	0	2	1	-54	2	6	7	5	5	3	3
30,000	-44.5	-47	-3	-1	0	-45	-0	2	1	-32	13	15	16	-41	4	6	7	-41	3	7	9	3	3	3	3
20,000	-21.2	-22	-1	2	3	-18	3	6	7	-7	14	16	16	-14	7	9	10	-15	6	9	11	4	4	3	3
10,000	-4.6	-6	-1	1	2	-1	4	6	8	9	13	15	16	3	8	10	11	1	6	9	11	4	4	3	3
MALTA TO ROME																									368 N.MI.
51,000	-56.5	-58	-2	1	3	-57	-1	2	3	-61	-5	-3	-1	-61	-5	-3	-1	-60	-3	-0	1	5	4	3	3
40,000	-56.5	-57	-0	1	5	-57	-1	3	4	-50	7	9	10	-56	0	2	4	-55	1	5	7	5	5	3	4
30,000	-44.5	-44	-4	-1	-0	-45	-1	1	3	-36	9	11	12	-41	3	6	7	-41	2	5	7	3	3	3	4
20,000	-21.2	-21	-2	1	1	-17	3	5	6	-10	12	13	14	-15	7	8	10	-16	5	8	10	4	3	3	3
10,000	-4.6	-6	-1	1	3	-2	3	6	7	8	12	14	15	1	6	8	9	0	5	8	10	4	4	3	3
MALTA TO TRIPOLI																									202 N.MI.
51,000	-56.5	-61	-5	-2	-1	-60	-3	-1	0	-66	-9	-7	-6	-64	-7	-5	-4	-63	-6	-3	-2	4	3	3	3
40,000	-56.5	-56	1	4	6	-56	0	1	5	-49	8	10	11	-56	0	3	4	-54	2	5	7	5	5	3	3
30,000	-44.5	-46	-2	0	1	-43	1	3	4	-34	11	13	14	-40	5	6	8	-41	4	7	9	3	3	3	3
20,000	-21.2	-20	1	1	5	-16	5	7	8	-8	14	15	16	-13	8	10	11	-14	7	10	11	4	3	2	2
10,000	-4.6	-4	1	1	4	1	5	6	9	10	15	16	17	3	8	10	11	3	7	10	12	4	3	2	3
MANAGUA TO MIAMI																									886 N.MI.
53,000	-56.5	-76	-20	-18	-17	-75	-18	-16	-16	-73	-16	-15	-14	-77	-21	-19	-18	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-55	2	3	4	-54	3	4	5	-56	0	1	2	-54	2	4	4	-55	2	3	4	2	2	1	2
30,000	-44.5	-36	9	10	11	-34	10	11	12	-33	12	13	13	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	13	15	15	-7	14	16	16	-7	15	15	16	-6	15	16	17	-7	14	16	16	2	2	1	2
10,000	-4.6	7	12	13	14	8	13	14	15	9	14	14	15	9	14	15	15	8	13	14	15	2	2	1	1

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
MANAGUA TO SAN JOSE																									296 N.MI.
53,000	-56.5	-78	-21	-19	-18	-77	-20	-18	-18	-74	-18	-16	-15	-78	-22	-20	-19	-77	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-55	3	4	5	-56	1	2	3	-54	3	4	4	-54	2	4	5	2	2	2	2
30,000	-44.5	-34	10	11	12	-33	12	13	14	-33	12	13	13	-32	13	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-7	15	16	17	-5	16	17	18	-7	15	15	16	-6	16	17	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	10	14	16	16	9	14	15	15	10	15	16	16	9	14	15	16	2	2	1	1
MANAGUA TO SAN SALVADOR																									977 N.MI.
53,000	-56.5	-76	-20	-18	-17	-75	-19	-17	-16	-73	-16	-15	-14	-77	-21	-19	-18	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	2	4	5	-54	3	4	5	-56	0	2	2	-54	2	4	4	-55	2	3	4	2	2	2	2
30,000	-44.5	-35	9	10	11	-34	11	12	12	-33	11	12	13	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	14	15	16	-7	15	16	17	-7	15	15	16	-6	15	16	17	-7	15	16	16	2	2	1	1
10,000	- 4.6	7	12	13	14	8	13	14	15	9	14	14	15	9	14	15	15	8	13	14	15	2	2	1	1
MANAGUA TO TEGUCIGALPA																									131 N.MI.
53,000	-56.5	-77	-21	-19	-18	-77	-20	-18	-17	-74	-17	-16	-15	-78	-22	-20	-19	-77	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-53	3	5	5	-56	1	2	3	-54	3	4	4	-54	2	4	5	2	2	2	2
30,000	-44.5	-34	10	11	12	-32	12	13	14	-33	12	13	13	-32	13	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-7	15	16	17	-5	16	17	18	-7	15	15	16	-6	16	17	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	14	15	16	9	14	15	15	10	15	16	16	9	14	15	16	2	2	1	1
MANAOS TO SAO PAULO																									1455 N.MI.
53,000	-56.5	-76	-20	-17	-16	-75	-19	-17	-15	-70	-13	-11	-9	-72	-15	-13	-12	-73	-17	-14	-12	4	3	4	3
40,000	-56.5	-53	4	6	7	-52	5	7	9	-52	4	6	7	-54	3	5	6	-53	4	6	8	3	4	3	3
30,000	-44.5	-32	13	14	15	-31	13	15	16	-33	11	13	14	-32	13	15	16	-32	13	14	16	2	3	3	3
20,000	-21.2	-5	16	18	19	-6	16	17	18	-9	12	13	14	-7	15	16	17	-7	15	16	17	2	2	2	2
10,000	- 4.6	10	14	16	16	9	14	16	16	6	11	12	13	9	14	15	16	9	13	15	16	2	2	2	2
MANILA TO MAURIPUR																									5097 N.MI.
53,000	-56.5	-75	-18	-16	-15	-73	-17	-14	-13	-76	-19	-16	-15	-74	-18	-15	-14	-75	-18	-15	-14	3	4	4	4
40,000	-56.5	-55	2	4	5	-52	4	7	8	-51	6	8	10	-54	3	5	7	-53	4	7	8	3	3	4	4
30,000	-44.5	-34	10	12	14	-33	12	14	15	-28	17	18	19	-31	13	15	16	-32	13	15	17	3	3	2	3
20,000	-21.2	-9	12	14	15	-7	14	16	17	-3	18	19	20	-6	15	17	18	-6	15	17	18	3	3	2	2
10,000	- 4.6	6	11	12	13	10	14	16	17	12	17	18	18	8	13	15	15	9	14	15	16	3	2	2	2
MANILA TO MURDEN																									1639 N.MI.
53,000	-56.5	-67	-10	-7	-5	-68	-12	-9	-7	-68	-12	-9	-7	-67	-11	-8	-6	-68	-11	-8	-6	5	4	5	4
40,000	-56.5	-52	4	7	8	-55	4	7	8	-69	7	10	11	-52	4	7	8	-52	5	8	9	3	4	4	4
30,000	-44.5	-37	7	9	11	-56	8	11	12	-28	16	18	20	-55	12	14	15	-56	11	14	16	3	4	3	3
20,000	-21.2	-16	5	8	9	-11	10	12	14	-4	17	19	19	-10	11	14	15	-10	11	14	15	3	3	2	3
10,000	- 4.6	-2	2	5	6	3	7	10	11	11	15	17	18	5	10	12	13	4	9	11	13	3	3	2	3
MANILA TO NANKING																									1063 N.MI.
53,000	-56.5	-73	-16	-13	-11	-73	-17	-14	-13	-72	-14	-13	-11	-71	-14	-12	-10	-72	-16	-33	-11	4	4	4	4
40,000	-56.5	-53	4	6	7	-52	4	6	7	-51	4	6	9	-52	4	6	7	-52	4	7	8	3	3	3	3
30,000	-44.5	-33	11	13	14	-33	12	14	15	-29	16	17	18	-30	14	16	17	-31	13	15	37	3	3	3	2
20,000	-21.2	-10	11	13	14	-7	14	15	16	-4	17	18	19	-7	14	36	17	-7	14	16	17	3	3	2	3
10,000	- 4.6	5	8	10	11	7	11	13	14	11	16	17	17	8	12	14	15	7	12	14	15	3	2	2	2
MANILA TO NEW DELHI																									2576 N.MI.
53,000	-56.5	-74	-17	-15	-14	-72	-16	-13	-12	-75	-18	-15	-14	-72	-16	-13	-12	-73	-17	-14	-13	4	4	4	4
40,000	-56.5	-54	2	4	5	-52	4	6	8	-51	6	8	9	-54	3	5	6	-53	4	6	8	3	3	3	4
30,000	-44.5	-35	10	12	13	-33	11	13	15	-28	17	18	19	-32	13	15	16	-32	13	15	16	3	3	2	3
20,000	-21.2	-10	11	13	14	-7	14	16	17	-3	18	19	20	-6	15	16	17	-7	14	16	18	3	3	2	2
10,000	- 4.6	5	9	11	12	9	13	15	16	12	16	17	18	8	13	14	55	8	13	15	16	3	2	2	2
MANILA TO OKINAWA																									805 N.MI.
53,000	-56.5	-75	-19	-16	-15	-74	-19	-16	-15	-74	-18	-15	-13	-73	-16	-14	-12	-74	-18	-15	-14	4	4	4	4
40,000	-56.5	-53	4	6	7	-52	4	6	7	-52	5	7	8	-53	4	6	7	-52	4	6	8	2	3	3	3
30,000	-44.5	-31	14	15	16	-32	13	14	15	-30	15	16	17	-30	14	16	17	-31	14	36	37	2	2	2	2
20,000	-21.2	-8	14	15	16	-6	15	17	18	-4	17	18	19	-6	15	17	18	-6	15	17	18	2	2	2	2
10,000	- 4.6	6	11	12	13	9	14	15	16	11	16	17	17	10	14	15	16	9	14	15	16	2	2	1	2
MANILA TO PEIPING																									1525 N.MI.
51,000	-56.5	-68	-12	-8	-7	-69	-13	-10	-9	-69	-13	-10	-8	-68	-12	-9	-7	-69	-12	-9	-7	5	4	5	4
40,000	-56.5	-52	4	6	7	-52	4	7	8	-49	7	9	11	-52	4	7	8	-52	5	8	9	3	4	3	4
30,000	-44.5	-37	8	10	11	-35	9	11	13	-28	16	18	19	-32	12	14	15	-33	11	14	16	3	3	3	3
20,000	-21.2	-14	7	9	10	-16	11	13	14	-4	17	19	19	-9	12	14	55	-10	12	14	16	3	3	2	3
10,000	- 4.6	-1	4	6	7	4	8	10	11	11	16	17	18	5	10	12	13	5	9	12	13	3	3	2	3
MANILA TO PORT MORESBY																									2118 N.MI.
53,000	-56.5	-82	-25	-23	-22	-80	-24	-22	-21	-78	-22	-20	-19	-80	-23	-22	-21	-80	-24	-21	-20	3	3	3	3
40,000	-56.5	-54	3	4	4	-52	5	6	7	-54	2	3	4	-54	2	4	4	-54	3	5	6	2	2	2	2
30,000	-44.5	-31	14	15	16	-31	13	15	15	-31	13	14	15	-31	13	14	15	-31	13	15	15	2	2	2	2
20,000	-21.2	-4	17	18	18	-5	16	17	18	-5	16	17	17	-6	16	17	17	-5	16	17	18	1	2	1	1
10,000	- 4.6	10	15	16	16	10	15	16	17	10	14	15	16	10	15	16	16	10	15	16	16	1	2	1	1
MANILA TO RANGOON																									1443 N.MI.
53,000	-56.5	-79	-22	-20	-19	-78	-21	-19	-18	-78	-21	-18	-17	-77	-21	-19	-17	-78	-21	-19	-18	3	3	4	3
40,000	-56.5	-55	2	3	4	-52	5	6	7	-53	3	4	5	-54	2	4	5	-54	3	5	6	2	2	2	2
30,000	-44.5	-31	13	14	15	-30	14	16	17	-30	15	16	16	-31	14	15	16	-30	14	15	16	2	2	1	2
20,000	-21.2	-6	15	17	17	-4	17	18	19	-4	17	18	18	-6	16	17	17	-5	16	18	18	2	2	1	2
10,000	- 4.6	8	13	14	15	10	15	16	17	11	15	16	16	9	14	15	16	10	14	15	16	2	2	1	2
MANILA TO SAN FRANCISCO																									6058 N.MI.
53,000	-56.5	-60	-4	-1	1	-60	-3	-0	2	-60	-4	-1	0	-62	-5	-3	-1	-61	-4	-1	1	5	5	4	4
40,000	-56.5	-51	5	9	11	-54	2	6	8	-52	5	8	9	-53	4	6	8	-53	4	8	10	6	5	4	4
30,000	-44.5	-41	4	6	8	-41	4	6	7	-34	10	12	14	-37	8	10	11	-38	6	9	11	4	4	4	4
20,000	-21.2	-19	3	5	7	-16	5	8	9	-8	13	15	16	-15	8	11	12	-14	7	10	12	4	4	3	4
10,000	- 4.6	-4	1	3	5	-2	3	5	7	6	11	13	14	1	6	8	9	0	5	8	10	4	4	3	3
MANILA TO SINGAPORE																									1281 N.MS.
53,000	-56.5	-82	-25	-23	-22	-80	-24	-22	-21	-78	-22	-20	-18	-80	-23	-21	-20	-80	-23	-21	-20	3	3	3	3
40,000	-56.5	-55	2	3	4	-52	5	6	7	-54	2	3	4	-54	2	3	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-31	14	15	16	-30	15	16	16	-31	14	15	15	-31	13	14	15	-31	14	15	16	2	2	3	1
20,000	-21.2	-5	16	17	18	-4	17	18	19	-5	16	17	17	-6	36	17	17	-5	16	17	18	1	2	1	1
10,000	- 4.6	10	14	15	16	10	15	16	16	10	14	15	15	10	15	15	16	10	15	16	16	1	1	1	1

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	075	D85	APRIL 50	D50	075	D85	JULY 50	D50	075	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
MANILA TO TAIPEI																									634 N.MI.
55,000	-56.5	-76	-20	-17	-16	-76	-20	-17	-16	-75	-18	-16	-14	-73	-17	-14	-13	-75	-19	-16	-14	4	4	4	4
40,000	-56.5	-53	4	5	6	-52	4	6	7	-52	4	6	7	-53	4	6	7	-52	4	6	7	2	3	3	3
30,000	-44.5	-31	13	15	16	-31	13	15	16	-30	15	16	17	-30	14	16	17	-31	14	16	16	2	2	2	2
20,000	-21.2	-7	14	15	16	-6	16	17	18	-4	17	18	19	-6	15	17	18	-6	15	17	18	2	2	2	2
10,000	- 4.6	7	11	13	14	9	14	15	16	11	16	17	17	9	14	15	16	9	14	15	16	2	2	1	2
MANILA TO TOKYO																									1616 N.MI.
55,000	-56.5	-70	-14	-11	-9	-71	-14	-11	-10	-70	-14	-11	-9	-69	-13	-10	-8	-70	-14	-11	-9	5	4	5	4
40,000	-56.5	-51	5	8	9	-53	3	6	7	-51	6	8	10	-52	4	7	8	-52	5	7	9	3	4	4	3
30,000	-44.5	-33	11	13	15	-34	11	13	14	-29	16	17	19	-30	14	16	17	-32	13	15	17	3	3	3	3
20,000	-21.2	-12	10	11	12	-8	13	15	16	-4	17	18	19	-7	14	16	17	-8	13	16	17	3	3	2	3
10,000	- 4.6	2	6	8	9	6	11	13	14	11	16	17	17	8	13	14	15	7	11	13	15	3	3	2	2
MARACAIBO TO MIAMI																									1032 N.MI.
55,000	-56.5	-76	-20	-18	-17	-75	-19	-17	-16	-72	-16	-14	-14	-77	-20	-18	-17	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	2	4	5	-54	3	4	5	-56	0	2	2	-54	2	4	4	-55	2	3	4	2	2	2	2
30,000	-44.5	-35	9	10	11	-34	11	12	13	-33	11	12	13	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	13	15	16	-7	14	16	16	-7	14	15	16	-6	15	16	17	-7	14	16	16	2	2	1	1
10,000	- 4.6	7	12	13	14	8	12	14	15	9	14	14	15	9	14	15	15	8	13	14	15	2	2	1	1
MARACAIBO TO NEW ORLEANS																									1541 N.MI.
55,000	-56.5	-75	-19	-17	-16	-74	-17	-16	-15	-72	-16	-14	-14	-77	-20	-18	-17	-74	-18	-16	-15	3	3	2	3
40,000	-56.5	-55	1	3	4	-54	2	4	5	-56	0	2	2	-54	2	4	4	-55	2	3	4	2	2	2	2
30,000	-44.5	-36	8	10	10	-35	10	11	12	-33	12	12	13	-33	12	13	14	-34	10	12	13	2	2	1	2
20,000	-21.2	-9	13	14	15	-8	14	15	16	-7	15	15	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	- 4.6	7	11	13	14	8	12	14	15	9	14	14	15	9	14	15	15	8	13	14	14	2	2	1	2
MARSEILLES TO MUNICH																									392 N.MI.
55,000	-56.5	-56	0	3	5	-55	1	4	6	-54	3	5	6	-59	-3	-0	1	-56	0	3	5	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	3	5	-53	4	7	8	-56	0	3	4	-56	0	4	6	6	5	4	4
30,000	-44.5	-50	-5	-3	-1	-47	-2	0	2	-39	6	8	9	-43	2	5	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-4	-1	1	-21	0	3	4	-12	9	11	12	-17	5	7	9	-19	2	6	8	5	4	3	4
10,000	- 4.6	-9	-4	-1	1	-5	-0	2	4	4	8	11	12	-1	4	6	8	-3	2	5	7	5	4	3	4
MARSEILLES TO OSLO																									1009 N.MI.
55,000	-56.5	-57	-1	3	4	-54	3	5	7	-50	6	8	10	-58	-1	1	3	-55	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	5	8	-51	5	9	11	-56	0	4	5	-55	1	5	8	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-4	-1	0	-41	4	6	8	-44	0	3	4	-46	-1	2	4	4	6	4	4
20,000	-21.2	-28	-6	-2	-0	-23	-2	1	3	-14	7	9	10	-19	3	6	7	-21	0	4	6	6	4	3	5
10,000	- 4.6	-11	-7	-3	-1	-7	-2	1	2	1	6	8	9	-4	1	4	6	-5	-0	3	5	6	4	3	5
MARSEILLES TO PARIS																									352 N.MI.
55,000	-56.5	-57	-1	3	4	-55	1	4	5	-54	2	5	6	-59	-3	-0	1	-56	0	3	5	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-53	4	7	8	-56	0	3	5	-56	0	4	6	6	6	5	4
30,000	-44.5	-49	-5	-2	-1	-47	-2	0	2	-39	6	8	9	-43	2	5	6	-44	0	4	5	4	4	4	4
20,000	-21.2	-25	-4	-0	2	-21	0	3	5	-12	9	11	12	-17	5	7	9	-19	3	6	6	5	4	3	4
10,000	- 4.6	-8	-3	0	2	-4	0	3	4	4	8	10	12	-1	4	6	8	-2	2	6	7	5	4	3	4
MARSEILLES TO PRAGUE																									547 N.MI.
55,000	-56.5	-56	0	4	5	-55	2	4	6	-53	3	6	7	-59	-2	0	2	-56	1	4	5	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-52	4	7	9	-56	0	3	4	-56	0	4	6	6	5	4	4
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-39	5	8	9	-43	2	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-21	-0	3	4	-13	9	11	12	-17	4	7	9	-19	2	5	7	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-1	2	4	3	8	10	11	-1	3	6	8	-3	1	5	7	5	4	3	4
MARSEILLES TO ROME																									540 N.MI.
55,000	-56.5	-57	-0	3	5	-56	0	3	4	-57	-1	2	3	-60	-4	-1	0	-58	-1	2	4	5	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	4	-52	4	7	8	-56	0	3	4	-56	0	4	6	5	5	4	4
30,000	-44.5	-49	-4	-2	-0	-46	-2	1	2	-38	7	9	10	-42	3	5	7	-44	1	4	6	4	4	3	4
20,000	-21.2	-24	-3	0	2	-20	1	4	5	-11	10	12	13	-16	6	8	9	-18	3	7	9	5	4	3	3
10,000	- 4.6	-7	-2	1	3	-3	1	4	5	6	10	12	14	-0	5	7	8	-1	3	7	9	5	4	3	4
MARSEILLES TO SANTA MARIA																									1436 N.MI.
55,000	-56.5	-60	-3	0	2	-58	-1	2	3	-59	-3	-0	1	-61	-5	-2	-1	-59	-3	0	2	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-2	2	4	-54	3	6	7	-56	0	3	4	-57	-0	3	5	6	6	4	4
30,000	-44.5	-47	-2	0	1	-45	-0	2	4	-37	7	10	11	-41	4	6	8	-42	2	5	7	3	4	3	4
20,000	-21.2	-21	0	3	5	-18	3	5	7	-11	10	12	13	-14	7	9	11	-16	5	8	10	4	4	3	3
10,000	- 4.6	-4	1	4	5	-1	3	6	7	6	11	13	14	2	6	8	10	1	5	8	10	4	4	3	3
MARSEILLES TO SHANNON																									792 N.MI.
55,000	-56.5	-58	-1	2	4	-55	2	4	6	-53	4	6	8	-59	-2	1	2	-56	1	4	5	5	4	4	4
40,000	-56.5	-58	-2	3	5	-57	-0	4	6	-52	4	8	9	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-49	-5	-2	-1	-47	-2	0	2	-40	5	7	9	-43	1	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-24	-3	0	2	-21	-0	3	5	-13	8	10	11	-17	4	7	9	-19	2	6	7	5	4	3	4
10,000	- 4.6	-8	-3	0	2	-5	-0	3	4	3	7	9	11	-1	3	6	7	-3	2	5	7	5	4	3	4
MARSEILLES TO STOCKHOLM																									1079 N.MI.
55,000	-56.5	-57	-0	3	5	-54	3	5	7	-50	6	9	10	-58	-1	2	3	-55	2	5	7	5	4	3	4
40,000	-56.5	-59	-2	2	4	-55	1	5	7	-51	5	9	10	-56	0	4	5	-55	1	5	8	6	6	5	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-41	4	6	8	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-14	7	9	10	-19	3	6	7	-21	0	4	6	6	4	3	5
10,000	- 4.6	-12	-7	-3	-1	-7	-3	1	2	2	6	8	9	-4	1	4	6	-5	-1	3	5	6	5	3	5
MARSEILLES TO TEHERAN																									2154 N.MI.
55,000	-56.5	-57	-1	2	4	-56	0	3	4	-60	-3	-1	0	-60	-4	-1	0	-58	-2	1	2	4	4	3	4
40,000	-56.5	-57	-0	3	5	-56	0	4	5	-49	8	10	12	-56	0	3	4	-54	2	6	8	5	5	4	4
30,000	-44.5	-50	-5	-3	-1	-46	-1	1	3	-34	10	13	14	-42	3	5	6	-43	2	6	8	4	4	3	4
20,000	-21.2	-25	-4	-1	1	-19	2	5	6	-9	12	14	15	-16	6	8	9	-17	4	8	10	4	4	3	3
10,000	- 4.6	-9	-4	-1	1	-3	2	5	6	7	11	14	15	1	6	8	9	-1	4	7	9	5	4	3	4
MARSEILLES TO TEL AVIV-JAFFA																									1555 N.MI.
55,000	-56.5	-59	-2	1	2	-58	-1	1	2	-63	-6	-4	-3	-62	-5	-3	-2	-60	-4	-1	1	4	3	3	3
40,000	-56.5	-56	0	3	5	-57	-1	3	5	-49	8	10	11	-56	0	2	4	-55	2	5	7	5	5	3	3
30,000	-44.5	-48	-4	-2	-0	-45	-1	2	3	-34	11	13	14	-41	4	6	7	-42	2	6	8	3	3	3	3
20,000	-21.2	-23	-2	1	3	-19	2	5	6	-9	13	14	15	-15	7	9	10	-16	5	8	10	4	4	3	3
10,000	- 4.6	-7	-2	1	2	-2	3	5	7	8	12	14	15	2	7	9	10	0	5	8	10	4	4	3	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY				APRIL				JULY				OCTOBER				ANNUAL				STANDARD DEVIATION			
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
MARSEILLES TO VIENNA																									552 N.MI.
55,000	-56.5	-56	0	4	5	-55	1	4	6	-54	3	5	7	-59	-2	0	1	-56	1	3	5	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-53	4	7	8	-56	0	3	4	-56	0	4	6	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-47	-3	0	2	-39	6	8	9	-45	2	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-21	0	3	4	-12	9	11	12	-17	5	7	9	-19	2	6	7	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-5	-1	2	4	4	8	10	12	-1	3	6	8	-3	2	5	7	5	4	3	4
MARSEILLES TO WARSAW																									821 N.MI.
55,000	-56.5	-56	0	4	5	-54	2	5	6	-52	5	7	8	-58	-2	1	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-0	3	5	-52	5	8	9	-56	0	3	5	-56	1	4	6	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-48	-3	-0	1	-40	5	7	9	-45	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	4	-15	8	10	11	-17	4	7	8	-20	1	5	7	5	4	3	4
10,000	- 4.6	-11	-6	-2	-1	-6	-1	2	3	3	7	9	11	-2	2	5	7	-4	1	4	6	5	4	3	4
MARSEILLES TO ZURICH																									280 N.MI.
55,000	-56.5	-57	-0	3	5	-55	1	4	5	-54	2	5	6	-59	-3	-0	1	-56	0	3	5	5	6	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	2	4	-53	3	6	8	-56	0	3	4	-56	0	4	6	4	6	4	6
30,000	-44.5	-50	-5	-2	-1	-47	-2	0	2	-39	6	8	9	-45	2	5	6	-44	0	4	5	4	6	4	6
20,000	-21.2	-25	-4	-1	1	-21	0	3	5	-12	9	11	12	-16	5	7	9	-19	3	4	8	5	4	3	6
10,000	- 4.6	-8	-4	-0	2	-5	0	3	4	4	9	11	12	-1	4	6	8	-2	2	4	8	5	4	3	4
MAURITIUS TO NAIROBI																									1672 N.MI.
55,000	-56.5	-77	-20	-18	-17	-76	-20	-17	-16	-72	-15	-15	-12	-75	-18	-16	-15	-75	-18	-14	-14	4	4	3	3
40,000	-56.5	-52	4	6	7	-52	4	6	7	-52	5	6	7	-53	4	6	6	-52	4	4	7	3	3	2	2
30,000	-44.5	-50	15	16	17	-51	13	15	16	-52	12	14	14	-52	12	13	14	-52	13	15	15	2	2	2	2
20,000	-21.2	-5	17	17	18	-6	16	16	17	-6	15	17	17	-6	15	14	16	-6	16	16	17	1	1	2	2
10,000	- 4.6	10	14	15	15	10	14	15	16	7	12	13	14	9	14	15	15	9	13	15	15	1	1	2	2
MAURITIUS TO PERTH																									5176 N.MI.
55,000	-56.5	-68	-12	-9	-8	-64	-11	-9	-7	-65	-7	-4	-5	-65	-9	-6	-5	-66	-10	-6	-5	4	4	4	4
40,000	-56.5	-55	2	5	6	-56	1	3	4	-52	4	7	8	-52	4	6	8	-54	3	5	7	4	5	4	4
30,000	-44.5	-35	10	12	13	-38	6	8	9	-39	6	9	10	-39	5	7	8	-38	7	9	11	4	5	4	4
20,000	-21.2	-9	12	14	14	-12	9	10	11	-14	7	9	10	-33	9	11	12	-12	9	11	12	3	3	4	3
10,000	- 4.6	6	11	12	13	4	9	10	11	1	6	8	9	2	7	9	10	3	8	10	11	2	3	3	3
MEDAN TO MENADO																									1577 N.MI.
55,000	-56.5	-83	-26	-24	-23	-80	-24	-22	-21	-78	-22	-20	-19	-80	-24	-22	-21	-80	-24	-22	-20	3	3	3	3
40,000	-56.5	-55	2	3	4	-52	3	6	7	-54	2	3	4	-54	2	3	4	-54	3	4	5	2	2	1	2
30,000	-44.5	-51	14	15	15	-50	14	15	16	-51	14	15	15	-51	13	14	14	-51	14	15	16	2	2	2	1
20,000	-21.2	-5	17	17	18	-5	17	17	18	-5	16	17	17	-6	16	17	17	-5	16	17	17	1	1	1	1
10,000	- 4.6	10	14	15	15	10	15	16	16	9	14	15	15	10	14	15	15	10	14	15	16	1	1	1	1
MEDAN TO PADANG																									285 N.MI.
55,000	-56.5	-82	-26	-24	-23	-80	-23	-21	-20	-78	-22	-20	-19	-80	-24	-22	-21	-80	-24	-21	-20	3	3	3	3
40,000	-56.5	-55	2	3	4	-52	3	4	7	-54	2	3	4	-54	2	3	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-51	14	15	15	-50	15	16	16	-51	14	15	15	-52	13	14	14	-51	14	15	16	2	2	2	1
20,000	-21.2	-5	17	18	18	-5	16	17	18	-5	16	17	17	-6	16	17	17	-5	16	17	18	1	1	1	1
10,000	- 4.6	10	14	15	15	10	15	15	16	9	14	14	15	9	14	15	15	9	14	15	15	1	1	1	1
MEDAN TO TARAKAN																									1151 N.MI.
55,000	-56.5	-82	-26	-24	-23	-80	-24	-22	-21	-78	-22	-20	-19	-80	-24	-22	-21	-80	-24	-22	-20	3	3	3	3
40,000	-56.5	-55	2	3	4	-52	3	6	7	-54	2	3	4	-54	2	3	4	-54	3	4	5	2	2	1	2
30,000	-44.5	-51	14	15	15	-50	15	16	16	-51	14	15	15	-51	13	14	14	-51	14	15	16	2	2	2	1
20,000	-21.2	-5	17	17	18	-6	17	18	18	-5	16	17	17	-6	16	17	17	-5	16	17	18	1	1	1	1
10,000	- 4.6	10	14	15	15	10	15	16	16	9	14	14	15	10	14	15	15	10	14	15	16	1	1	1	1
MELBOURNE TO NANDI																									2086 N.MI.
55,000	-56.5	-70	-13	-11	-10	-69	-12	-9	-8	-65	-8	-6	-5	-64	-8	-6	-5	-67	-10	-8	-6	3	4	3	3
40,000	-56.5	-54	2	4	6	-56	2	4	4	-54	3	5	6	-54	3	5	7	-56	2	5	7	3	3	4	4
30,000	-44.5	-36	8	11	12	-37	6	8	9	-41	3	5	7	-41	4	6	7	-39	5	8	9	3	3	4	3
20,000	-21.2	-10	12	11	14	-13	8	10	11	-17	5	7	8	-15	6	8	9	-14	8	10	11	3	3	3	3
10,000	- 4.6	7	11	11	14	3	8	10	11	-1	4	6	7	2	6	8	9	3	7	10	11	3	3	3	3
MELBOURNE TO PERTH																									1460 N.MI.
55,000	-56.5	-63	-6	-4	-2	-62	-6	-3	-2	-59	-2	0	2	-59	-2	0	3	-61	-4	-1	0	4	4	4	3
40,000	-56.5	-55	2	4	6	-57	-0	2	4	-54	3	5	7	-52	4	7	9	-55	2	6	7	4	4	4	3
30,000	-44.5	-39	6	8	9	-45	1	3	4	-46	-2	1	3	-44	1	3	4	-43	2	4	6	3	3	4	3
20,000	-21.2	-12	9	11	12	-17	4	6	8	-22	-1	3	3	-16	3	6	7	-17	4	7	9	3	3	4	4
10,000	- 4.6	4	9	11	12	0	3	7	8	-5	-0	2	3	-2	3	6	7	-1	4	7	9	3	3	3	4
MELBOURNE TO SEATTLE																									7109 N.MI.
51,000	-56.5	-72	-15	-13	-12	-69	-13	-11	-9	-69	-12	-10	-9	-70	-14	-11	-10	-70	-13	-11	-10	3	4	3	3
40,000	-56.5	-54	3	5	7	-55	2	4	6	-54	2	4	5	-54	2	4	6	-54	2	5	6	4	4	3	3
30,000	-44.5	-37	8	10	11	-37	7	9	10	-36	8	10	11	-36	8	10	11	-37	8	10	11	3	3	3	3
20,000	-21.2	-10	11	13	14	-12	10	12	13	-10	12	13	14	-10	11	13	14	-10	11	13	13	3	3	2	3
10,000	- 4.6	5	10	12	13	4	9	11	12	6	10	12	13	5	10	12	13	5	10	11	12	3	3	2	3
MELBOURNE TO SYDNEY																									381 N.MI.
55,000	-56.5	-63	-7	-4	-3	-62	-5	-3	-1	-58	-2	1	2	-58	-1	1	2	-60	-4	-1	0	4	4	4	3
40,000	-56.5	-56	1	3	5	-56	0	3	5	-54	3	5	7	-55	4	7	9	-55	2	6	8	4	4	4	3
30,000	-44.5	-39	5	8	9	-44	0	3	4	-48	-3	-1	0	-44	0	2	4	-44	1	4	5	3	3	4	3
20,000	-21.2	-12	9	11	12	-18	3	6	7	-23	-2	1	2	-19	2	5	6	-18	3	6	8	3	4	4	3
10,000	- 4.6	4	9	11	12	-1	3	5	7	-5	-1	1	3	-2	2	5	6	-1	3	7	8	3	3	3	4
MELBOURNE TO TOKYO																									4406 N.MI.
55,000	-56.5	-76	-19	-17	-16	-76	-17	-15	-14	-75	-16	-14	-12	-75	-16	-14	-13	-76	-17	-15	-13	3	4	4	3
40,000	-56.5	-52	4	6	7	-55	3	5	7	-55	3	5	6	-55	3	5	6	-55	3	5	7	3	3	3	3
30,000	-44.5	-32	12	14	15	-36	10	12	13	-33	11	13	14	-33	11	13	14	-33	11	13	14	3	3	3	3
20,000	-21.2	-8	14	15	16	-8	13	15	16	-8	13	14	15	-8	13	14	15	-8	13	15	16	2	2	2	2
10,000	- 4.6	7	12	13	14	7	12	13	14	7	12	13	14	7	12	13	14	7	12	13	14	2	2	2	2
MELBOURNE TO WELLINGTON																									1393 N.MI.
55,000	-56.5	-61	-4	-2	-0	-59	-3	-0	1	-56	1	3	4	-54	2	4	5	-58	-1	2	3	4	4	4	3
40,000	-56.5	-56	0	3	5	-56	0	3	5	-54	2	5	7	-53	4	8	10	-55	2	6	8	5	5	5	6
30,000	-44.5	-41	3	6	7	-46	-1	1	2	-51	-6	-4	-2	-47	-2	0	2	-46	-2	2	3	3	3	4	4
20,000	-21.2	-15	7	9	10	-20	2	4	6	-25	-3	-1	1	-21	0	3	4	-20	1	5	6	3	4	4	4
10,000	- 4.6	2	7	9	10	-3	2	4	5	-7	-3	-0	1	-4	1	3	5	-3	2	5	7	4	3	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
MENADO TO PADANG																									1481 N.MI.
55,000	-56.5	-85	-26	-24	-25	-80	-24	-22	-21	-78	-22	-20	-19	-80	-24	-22	-21	-80	-24	-22	-21	3	3	3	3
40,000	-56.5	-55	2	3	4	-52	5	6	7	-54	2	3	4	-54	2	3	4	-54	3	4	5	2	2	1	2
30,000	-44.5	-31	14	15	15	-30	14	15	16	-31	13	15	15	-32	13	14	14	-31	14	15	15	2	2	2	1
20,000	-21.2	-5	17	17	18	-5	16	17	17	-5	16	16	17	-6	16	17	17	-5	16	17	17	1	1	1	1
10,000	- 4.6	10	14	15	15	10	15	16	16	9	14	14	15	10	14	15	15	10	14	15	16	1	1	1	1
MENADO TO TARAKAN																									456 N.MI.
55,000	-56.5	-85	-26	-24	-25	-80	-24	-22	-21	-78	-22	-20	-19	-80	-24	-22	-21	-81	-24	-22	-20	3	3	3	3
40,000	-56.5	-54	2	3	4	-52	5	6	7	-54	2	3	4	-54	2	3	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-31	14	15	16	-31	14	15	16	-31	14	15	15	-31	13	14	14	-31	14	15	15	2	2	2	1
20,000	-21.2	-4	17	17	18	-5	16	17	18	-5	16	17	17	-5	16	17	17	-5	16	17	17	1	1	1	1
10,000	- 4.6	10	15	15	16	11	15	16	17	9	14	15	15	10	15	15	16	10	15	16	16	1	1	1	1
MENDOZA TO SANTIAGO																									104 N.MI.
55,000	-56.5	-64	-8	-5	-4	-64	-7	-5	-3	-58	-2	1	3	-59	-3	0	2	-61	-5	-1	0	4	4	4	4
40,000	-56.5	-54	3	6	8	-56	1	4	5	-52	5	8	9	-54	3	6	7	-54	3	6	8	5	5	4	4
30,000	-44.5	-39	5	8	9	-39	5	7	9	-45	-0	2	4	-39	6	8	10	-40	4	7	8	4	3	4	4
20,000	-21.2	-11	10	12	13	-14	7	9	10	-21	0	3	4	-12	9	12	13	-15	7	9	11	3	3	3	4
10,000	- 4.6	7	12	14	15	2	7	9	10	-2	2	4	5	1	5	7	8	2	6	9	11	3	3	3	3
MERIDA TO MIAMI																									594 N.MI.
55,000	-56.5	-75	-18	-17	-16	-73	-16	-14	-13	-72	-15	-14	-13	-77	-20	-18	-17	-74	-17	-16	-15	3	3	2	3
40,000	-56.5	-56	1	2	3	-55	2	3	4	-56	0	1	1	-54	2	3	4	-55	1	3	3	2	2	1	2
30,000	-44.5	-37	7	9	9	-36	8	10	10	-33	12	13	13	-33	11	13	13	-35	10	11	12	2	2	1	2
20,000	-21.2	-9	12	14	14	-8	11	14	15	-6	15	16	16	-6	15	16	17	-8	14	15	16	2	2	1	2
10,000	- 4.6	6	11	13	13	7	12	14	15	9	14	14	15	9	14	15	15	8	13	13	14	2	3	1	2
MERIDA TO NEW ORLEANS																									534 N.MI.
55,000	-56.5	-73	-17	-15	-14	-71	-15	-13	-12	-72	-15	-14	-13	-76	-20	-17	-16	-73	-17	-14	-13	3	3	2	3
40,000	-56.5	-57	-0	2	3	-55	1	1	4	-56	0	1	2	-55	2	3	4	-56	1	2	3	3	3	1	2
30,000	-44.5	-38	6	8	8	-37	7	9	9	-33	12	13	13	-34	11	12	13	-35	9	11	11	2	2	1	2
20,000	-21.2	-10	11	13	13	-10	12	13	14	-6	15	16	16	-7	14	16	16	-8	13	14	15	3	2	1	2
10,000	- 4.6	5	10	12	13	7	12	14	15	9	14	15	15	9	13	15	15	8	12	13	14	3	3	1	2
MERIDA TO TAMPA																									575 N.MI.
55,000	-56.5	-76	-18	-16	-15	-72	-16	-14	-13	-72	-15	-14	-13	-76	-20	-18	-16	-74	-17	-15	-14	3	3	2	3
40,000	-56.5	-56	0	2	3	-55	1	3	4	-57	-0	1	1	-55	2	3	4	-56	1	2	3	2	3	1	2
30,000	-44.5	-38	7	8	9	-37	8	9	10	-33	12	13	13	-34	11	12	13	-35	9	11	12	2	2	1	2
20,000	-21.2	-10	12	13	14	-9	12	14	15	-6	15	16	16	-7	15	16	16	-8	13	14	15	2	2	1	2
10,000	- 4.6	6	11	12	13	7	12	13	14	9	14	14	15	9	13	15	15	8	12	13	14	2	3	1	2
MEXICO CITY TO MIAMI																									1108 N.MI.
55,000	-56.5	-75	-19	-17	-16	-73	-16	-15	-14	-72	-16	-15	-14	-77	-21	-18	-17	-74	-18	-16	-15	3	3	2	3
40,000	-56.5	-56	0	2	3	-55	2	3	4	-56	0	1	2	-54	2	3	4	-55	1	3	3	2	2	1	2
30,000	-44.5	-37	7	9	9	-36	8	10	10	-33	12	13	13	-33	11	13	13	-35	10	11	12	2	2	1	2
20,000	-21.2	-9	12	14	14	-8	13	14	15	-6	15	16	16	-6	15	16	17	-8	14	15	15	2	2	1	2
10,000	- 4.6	7	11	13	14	8	13	14	15	9	14	15	15	9	14	15	16	8	13	14	14	2	3	1	2
MEXICO CITY TO MONTREAL																									2003 N.MI.
55,000	-56.5	-67	-11	-9	-7	-65	-9	-6	-5	-67	-11	-9	-8	-70	-13	-11	-10	-67	-11	-8	-7	3	4	3	4
40,000	-56.5	-57	-0	3	4	-57	-0	3	4	-55	2	3	4	-55	2	4	5	-56	1	3	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-34	11	12	13	-37	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-17	5	7	9	-14	7	9	10	-8	14	15	16	-10	11	13	14	-12	9	11	12	4	3	2	3
10,000	- 4.6	-2	3	6	7	2	7	9	11	8	13	14	14	6	10	12	13	3	8	10	12	4	4	2	3
MEXICO CITY TO NASSAU																									1265 N.MI.
55,000	-56.5	-75	-19	-17	-16	-73	-17	-15	-14	-72	-16	-15	-14	-77	-21	-18	-17	-74	-18	-16	-15	3	3	2	3
40,000	-56.5	-56	1	2	3	-55	2	3	4	-56	0	1	2	-54	2	3	4	-55	1	3	3	2	2	1	2
30,000	-44.5	-37	7	9	9	-36	9	10	10	-33	12	13	13	-33	11	13	14	-35	10	11	12	2	2	1	2
20,000	-21.2	-9	12	14	15	-8	13	15	15	-6	15	16	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	- 4.6	7	11	13	14	8	13	14	15	9	14	15	15	9	14	15	15	8	13	14	15	2	3	1	2
MEXICO CITY TO NEW ORLEANS																									795 N.MI.
55,000	-56.5	-74	-17	-15	-14	-71	-15	-13	-12	-72	-16	-14	-14	-76	-20	-18	-17	-73	-17	-15	-13	3	3	2	3
40,000	-56.5	-57	-0	2	3	-56	1	2	3	-56	1	2	2	-55	2	3	4	-56	1	2	3	3	3	2	2
30,000	-44.5	-38	6	8	8	-37	7	9	9	-32	12	13	14	-34	11	12	13	-35	9	11	12	2	2	1	2
20,000	-21.2	-11	11	12	13	-9	12	11	14	-6	15	16	16	-7	14	15	16	-8	13	14	15	3	2	1	2
10,000	- 4.6	6	10	12	13	8	13	15	16	10	14	15	16	9	14	15	16	8	13	14	15	3	3	1	2
MEXICO CITY TO NEW YORK																									1816 N.MI.
55,000	-56.5	-69	-13	-11	-10	-67	-11	-8	-7	-69	-13	-11	-10	-72	-15	-13	-12	-69	-13	-10	-9	3	3	3	3
40,000	-56.5	-57	-1	2	3	-57	-0	2	3	-55	1	2	3	-55	1	3	4	-56	0	2	4	4	4	2	3
30,000	-44.5	-41	4	5	6	-40	5	6	7	-33	11	12	13	-36	8	10	11	-38	7	9	10	3	2	2	3
20,000	-21.2	-14	7	9	11	-12	9	11	12	-7	14	15	16	-9	12	14	15	-11	11	12	13	3	3	2	3
10,000	- 4.6	1	6	8	9	4	8	11	12	9	11	14	15	7	11	13	14	5	10	11	12	4	4	2	3
MEXICO CITY TO PANAMA																									1501 N.MI.
55,000	-56.5	-77	-21	-19	-18	-76	-20	-18	-17	-74	-17	-16	-15	-78	-22	-20	-19	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	2	4	5	-54	3	4	5	-56	1	2	3	-54	3	4	4	-54	2	4	4	2	2	2	2
30,000	-44.5	-35	10	11	12	-33	11	13	13	-31	12	13	13	-32	13	14	14	-33	11	13	14	2	2	2	2
20,000	-21.2	-7	14	16	16	-6	16	17	18	-7	15	15	16	-6	15	16	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	10	14	16	16	10	14	15	15	10	15	16	16	9	14	15	16	2	2	1	1
MEXICO CITY TO PARIS																									4962 N.MI.
55,000	-56.5	-62	-5	-3	-1	-59	-2	0	1	-59	-3	-0	1	-63	-6	-4	-2	-61	-4	-1	0	4	4	3	4
40,000	-56.5	-56	1	4	6	-55	1	5	7	-53	3	6	7	-55	2	5	6	-55	2	5	6	5	5	4	4
30,000	-44.5	-46	-1	1	2	-44	0	2	4	-37	7	9	10	-41	4	6	8	-42	2	6	7	4	3	3	4
20,000	-21.2	-21	-0	3	5	-19	2	5	7	-11	10	12	13	-15	6	9	11	-17	5	8	9	5	4	3	4
10,000	- 4.6	-7	-2	1	3	-1	1	4	6	4	9	10	11	1	5	8	9	-1	3	6	8	5	4	3	4
MEXICO CITY TO PHILADELPHIA																									1756 N.MI.
55,000	-56.5	-70	-11	-11	-10	-67	-11	-9	-7	-69	-13	-11	-10	-72	-16	-14	-12	-70	-13	-11	-9	3	3	2	3
40,000	-56.5	-57	-1	2	3	-57	-0	2	3	-55	1	2	3	-55	1	3	4	-56	0	2	4	4	4	2	3
30,000	-44.5	-41	4	6	7	-40	5	7	7	-33	11	13	13	-36	9	10	11	-37	7	9	10	2	2	2	3
20,000	-21.2	-14	7	10	11	-12	9	11	12	-7	14	15	16	-9	12	14	15	-10	11	13	14	3	3	2	3
10,000	- 4.6	1	6	8	10	4	9	11	12	9	13	14	15	7	12	13	14	5	10	12	13	3	3	1	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
MEXICO CITY TO QUITO																						1687 N.MI.			
55,000	-56.5	-78	-21	-20	-19	-77	-20	-19	-18	-74	-18	-16	-15	-78	-22	-20	-19	-77	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	2	4	5	-55	3	5	6	-55	1	2	3	-54	2	4	4	-56	2	4	5	2	2	2	2
30,000	-44.5	-34	11	12	12	-32	12	13	14	-32	12	13	14	-31	13	14	15	-32	12	13	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-5	16	17	18	-7	15	15	16	-6	16	16	17	-6	15	17	17	2	2	1	1
10,000	-4.6	9	13	15	15	10	14	16	16	9	14	15	16	10	15	16	16	10	14	15	16	2	2	1	1
MEXICO CITY TO RIO DE JANEIRO																						4137 N.MI.			
55,000	-56.5	-77	-21	-19	-18	-76	-20	-18	-17	-72	-16	-13	-12	-75	-19	-17	-16	-75	-19	-16	-15	3	3	3	3
40,000	-56.5	-53	3	5	6	-52	4	6	7	-54	3	4	5	-54	3	4	5	-53	3	5	6	3	3	2	2
30,000	-44.5	-33	12	13	14	-32	13	14	15	-33	12	13	14	-32	13	14	15	-32	12	14	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	16	17	18	-8	13	14	15	-6	15	16	17	-6	15	16	17	2	2	2	2
10,000	-4.6	9	14	15	16	10	14	16	16	8	13	14	14	10	14	16	16	9	14	15	16	2	2	2	2
MEXICO CITY TO ST. LOUIS																						1244 N.MI.			
55,000	-56.5	-70	-14	-12	-10	-68	-11	-9	-8	-70	-14	-12	-11	-73	-17	-14	-13	-70	-14	-11	-10	3	3	2	3
40,000	-56.5	-57	-0	2	4	-57	-1	2	3	-55	2	3	3	-55	1	3	4	-56	1	2	3	4	3	2	3
30,000	-44.5	-40	4	6	6	-39	5	7	7	-33	12	13	14	-56	9	10	11	-57	7	9	11	2	2	2	3
20,000	-21.2	-14	7	9	11	-12	10	12	13	-6	15	16	16	-9	13	14	15	-10	11	13	14	3	3	1	2
10,000	-4.6	2	7	9	10	6	10	11	14	10	14	15	16	8	12	14	15	6	11	13	14	3	3	1	3
MEXICO CITY TO SAN ANTONIO																						607 N.MI.			
55,000	-56.5	-73	-17	-15	-14	-71	-15	-13	-12	-72	-16	-15	-14	-76	-20	-18	-17	-73	-17	-16	-15	3	3	2	3
40,000	-56.5	-56	0	2	4	-56	0	2	3	-55	1	2	3	-55	2	3	4	-56	1	2	3	3	3	2	2
30,000	-44.5	-38	6	7	8	-38	7	8	9	-32	12	13	14	-34	10	12	13	-36	9	11	12	2	2	1	2
20,000	-21.2	-11	10	12	13	-10	12	13	14	-6	15	16	16	-7	14	15	16	-8	13	14	15	3	2	1	2
10,000	-4.6	6	10	12	13	9	13	15	17	10	15	16	16	9	14	15	16	9	13	14	15	3	3	1	2
MEXICO CITY TO SAN DIEGO																						1257 N.MI.			
55,000	-56.5	-71	-15	-13	-12	-70	-13	-11	-10	-72	-15	-14	-13	-74	-18	-16	-15	-72	-15	-13	-11	3	3	2	3
40,000	-56.5	-58	0	3	5	-57	-0	2	3	-55	2	3	4	-55	2	3	4	-56	1	3	4	4	3	2	2
30,000	-44.5	-40	4	6	7	-39	5	7	8	-33	12	13	14	-35	9	11	12	-57	8	10	11	2	2	2	2
20,000	-21.2	-13	8	11	12	-11	10	12	13	-6	15	16	16	-8	13	15	15	-10	12	13	14	3	3	1	2
10,000	-4.6	4	9	11	12	7	12	14	15	11	16	17	17	9	13	15	16	8	12	14	15	4	3	1	2
MEXICO CITY TO SAN FRANCISCO																						1635 N.MI.			
55,000	-56.5	-69	-13	-10	-9	-67	-11	-9	-7	-70	-14	-12	-11	-72	-16	-14	-12	-70	-13	-11	-9	3	3	2	3
40,000	-56.5	-57	-0	3	5	-57	-1	2	3	-55	2	3	4	-55	1	3	4	-56	1	2	3	5	4	2	3
30,000	-44.5	-42	3	5	6	-40	4	6	7	-33	11	12	13	-56	8	10	11	-58	7	9	10	3	2	2	3
20,000	-21.2	-16	7	9	11	-13	9	11	12	-6	15	16	16	-9	12	14	15	-11	11	13	14	4	3	1	3
10,000	-4.6	3	7	10	12	6	10	13	14	11	16	17	18	8	12	14	15	7	11	14	15	4	4	2	3
MEXICO CITY TO SAN JUAN																						1876 N.MI.			
55,000	-56.5	-76	-20	-18	-17	-75	-19	-17	-16	-73	-16	-15	-14	-77	-21	-19	-18	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-55	2	3	4	-55	2	3	4	-56	0	1	2	-54	2	4	4	-55	2	3	4	2	2	1	2
30,000	-44.5	-36	9	10	11	-35	10	11	12	-33	12	12	13	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	13	15	15	-7	14	16	16	-7	15	15	16	-6	15	16	17	-7	14	16	16	2	2	1	1
10,000	-4.6	7	12	11	14	8	13	15	15	9	14	15	15	9	14	15	15	9	13	14	15	2	2	1	1
MEXICO CITY TO SAN SALVADOR																						1395 N.MI.			
55,000	-56.5	-75	-19	-17	-16	-73	-17	-15	-14	-72	-16	-15	-14	-77	-21	-19	-17	-75	-18	-16	-15	3	3	2	3
40,000	-56.5	-56	1	2	3	-55	2	3	4	-56	0	1	2	-56	2	3	4	-55	1	3	3	2	2	1	2
30,000	-44.5	-37	8	9	10	-36	9	10	11	-33	12	13	13	-33	12	13	14	-35	10	11	12	2	2	1	2
20,000	-21.2	-9	12	14	15	-8	13	15	16	-6	15	16	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	-4.6	7	12	11	14	8	13	14	15	9	14	14	15	9	14	15	15	8	13	14	15	2	2	1	1
MEXICO CITY TO SANTIAGO																						3567 N.MI.			
55,000	-56.5	-76	-19	-17	-16	-75	-19	-17	-16	-71	-14	-12	-11	-73	-16	-14	-13	-74	-17	-14	-13	3	3	3	3
40,000	-56.5	-56	3	5	6	-54	3	5	6	-56	3	4	5	-54	2	4	5	-54	3	5	6	3	3	3	2
30,000	-44.5	-34	11	12	13	-33	11	13	13	-35	10	12	12	-33	12	13	14	-34	11	13	13	2	2	2	2
20,000	-21.2	-6	15	16	17	-7	14	16	16	-10	11	13	13	-7	14	15	16	-8	14	15	16	2	2	2	2
10,000	-4.6	9	13	15	15	8	13	14	15	5	10	11	12	8	13	14	14	8	12	14	15	2	2	2	2
MEXICO CITY TO SEATTLE																						2027 N.MI.			
55,000	-56.5	-66	-10	-7	-6	-64	-8	-5	-4	-67	-10	-9	-8	-69	-12	-10	-9	-67	-10	-7	-6	4	3	3	3
40,000	-56.5	-57	-0	4	6	-57	-1	2	4	-55	2	3	4	-56	1	3	4	-56	1	3	4	5	4	2	3
30,000	-44.5	-44	0	2	3	-43	2	4	5	-34	10	11	12	-38	6	8	9	-40	5	7	8	3	3	2	3
20,000	-21.2	-18	3	7	8	-15	6	8	10	-7	14	15	16	-11	10	12	13	-13	8	11	12	5	3	2	3
10,000	-4.6	-1	3	6	8	5	8	10	12	11	16	17	18	5	10	12	14	4	9	12	13	5	4	2	4
MEXICO CITY TO TAHITI																						3713 N.MI.			
55,000	-56.5	-81	-24	-22	-21	-79	-22	-20	-19	-75	-18	-17	-16	-77	-20	-18	-17	-78	-21	-19	-18	3	3	3	3
40,000	-56.5	-54	2	4	5	-54	2	4	5	-55	2	3	4	-54	2	4	4	-56	2	4	5	3	3	2	2
30,000	-44.5	-33	11	13	13	-33	12	13	14	-33	11	13	13	-32	12	14	14	-33	12	13	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-6	15	16	16	-7	14	15	16	-6	15	16	17	-6	15	16	17	2	2	1	1
10,000	-4.6	9	14	15	15	10	15	14	16	9	14	15	15	10	14	15	16	9	14	15	16	1	2	2	1
MEXICO CITY TO TEGUCIGALPA																						755 N.MI.			
55,000	-56.5	-77	-20	-19	-18	-76	-19	-17	-16	-74	-17	-16	-15	-78	-22	-20	-19	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-55	2	3	4	-55	2	3	4	-56	1	2	2	-54	3	4	4	-55	2	3	4	2	2	2	2
30,000	-44.5	-36	9	10	11	-36	10	11	12	-33	12	13	13	-32	12	14	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	14	15	16	-6	15	16	17	-6	15	16	16	-6	15	16	17	-6	15	16	16	2	2	1	1
10,000	-4.6	8	13	14	15	10	14	16	17	10	14	15	15	10	15	16	16	9	14	15	16	2	2	1	1
MEXICO CITY TO TORONTO																						1755 N.MI.			
55,000	-56.5	-68	-12	-9	-8	-66	-9	-7	-6	-68	-12	-10	-9	-71	-14	-12	-11	-68	-12	-9	-7	3	4	3	3
40,000	-56.5	-57	-0	2	4	-57	-0	2	4	-55	2	3	4	-55	1	3	5	-56	1	2	3	4	4	2	3
30,000	-44.5	-42	3	5	5	-41	4	6	6	-34	11	12	13	-37	8	9	11	-58	6	9	10	3	3	2	3
20,000	-21.2	-16	5	8	9	-13	8	10	11	-7	14	15	16	-10	11	13	14	-12	10	12	13	4	3	2	3
10,000	-4.6	-0	4	7	8	3	8	10	12	9	13	14	15	6	11	13	14	4	9	11	12	4	4	2	3
MEXICO CITY TO TRINIDAD																						2245 N.MI.			
55,000	-56.5	-77	-21	-19	-18	-76	-20	-18	-17	-73	-17	-15	-15	-78	-21	-19	-18	-76	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	2	4	5	-53	3	4	5	-56	1	2	3	-54	3	4	4	-54	2	4	4	2	2	2	2
30,000	-44.5	-35	10	11	12	-33	12	13	13	-33	12	13	13	-32	13	14	14	-33	11	13	13	2	2	1	2
20,000	-21.2	-7	14	15	16	-6	15	16	17	-7	15	15	16	-6	15	16	17	-6	15	16	16	2	2	1	1
10,000	-4.6	8	13	14	15	9	14	15	16	9	14	15	15	10	14	15	16	9	14	15	15	2	2	1	1

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	D50*	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
MEXICO CITY TO VANCOUVER																									2127 N.MI.
51,000	-56.5	-66	-9	-7	-5	-63	-7	-5	-3	-66	-10	-8	-7	-68	-12	-10	-8	-66	-9	-7	-5	4	3	3	3
40,000	-56.5	-56	0	4	6	-57	-1	2	4	-55	2	4	5	-56	1	3	5	-56	1	3	4	5	4	3	3
30,000	-44.5	-45	-0	2	3	-43	2	3	4	-35	10	11	12	-38	6	8	9	-40	4	7	8	3	3	2	3
20,000	-21.2	-18	3	6	8	-16	5	8	9	-8	13	15	15	-12	9	12	13	-13	8	10	12	5	4	2	3
10,000	- 4.6	-2	2	6	8	2	7	10	11	11	15	17	17	5	9	12	13	4	8	11	13	5	4	2	4
MEXICO CITY TO WASHINGTON, D.C.																									3632 N.MI.
53,000	-56.5	-70	-14	-12	-11	-68	-11	-9	-8	-70	-13	-12	-11	-73	-16	-14	-13	-70	-14	-11	-30	3	3	2	3
40,000	-56.5	-57	-1	2	3	-57	-0	2	3	-55	1	2	3	-55	1	3	4	-56	0	2	3	3	3	2	3
30,000	-44.5	-40	4	6	7	-39	5	7	8	-33	11	13	13	-36	9	11	52	-37	7	9	13	2	2	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-7	14	15	16	-9	13	14	15	-10	11	13	14	3	3	2	2
10,000	- 4.6	2	7	9	10	5	9	12	13	9	13	14	15	7	12	14	14	6	10	12	13	3	3	3	3
MIAMI TO MONTREAL																									3221 N.MI.
53,000	-56.5	-66	-9	-7	-5	-63	-6	-4	-3	-65	-9	-7	-5	-68	-11	-8	-7	-65	-9	-6	-4	3	4	3	4
40,000	-56.5	-57	-1	2	4	-57	-0	3	4	-55	1	3	4	-55	1	4	5	-56	0	3	4	4	4	2	4
30,000	-44.5	-44	1	3	4	-42	2	4	5	-35	10	11	12	-38	6	9	10	-40	5	7	9	3	3	2	3
20,000	-21.2	-18	4	6	8	-16	5	8	9	-8	13	14	15	-11	10	12	13	-13	8	10	12	4	4	2	3
10,000	- 4.6	-4	1	4	6	-1	4	7	8	7	11	13	13	4	9	11	12	2	6	9	10	5	4	2	4
MIAMI TO NASSAU																									159 N.MI.
53,000	-56.5	-74	-17	-16	-15	-71	-15	-13	-12	-71	-14	-13	-12	-75	-19	-17	-16	-73	-36	-15	-14	3	3	2	3
40,000	-56.5	-56	1	2	3	-55	1	3	4	-57	-0	1	1	-55	2	3	4	-56	1	2	3	3	3	1	2
30,000	-44.5	-38	7	8	9	-37	8	9	10	-33	11	12	13	-31	11	12	13	-35	9	11	11	2	2	3	2
20,000	-21.2	-10	11	13	14	-9	12	14	14	-7	14	15	16	-6	15	14	17	-8	33	15	16	2	2	1	2
10,000	- 4.6	6	10	12	13	4	11	12	13	9	13	14	14	8	13	14	15	7	12	13	13	2	3	1	2
MIAMI TO OTTAWA																									3192 N.MI.
53,000	-56.5	-66	-9	-7	-6	-63	-7	-4	-3	-65	-9	-7	-6	-68	-11	-9	-7	-65	-9	-6	-5	3	4	3	4
40,000	-56.5	-57	-1	2	4	-57	-0	3	4	-55	1	3	4	-55	1	4	5	-56	0	3	4	4	4	2	4
30,000	-44.5	-44	1	3	4	-42	2	4	5	-35	10	11	12	-38	6	9	10	-40	5	7	9	3	3	2	3
20,000	-21.2	-18	4	6	8	-16	5	8	9	-8	13	14	15	-11	10	12	13	-13	8	10	32	4	4	2	3
10,000	- 4.6	-4	1	4	6	-1	4	7	8	7	11	13	13	4	9	11	12	2	6	9	10	4	4	2	4
MIAMI TO PANAMA CITY																									1004 N.MI.
53,000	-56.5	-76	-20	-18	-17	-75	-19	-17	-16	-73	-18	-15	-14	-77	-21	-19	-18	-75	-19	-17	-16	3	3	2	3
40,000	-55.5	-54	2	4	4	-53	3	5	5	-56	1	2	2	-54	2	4	4	-54	2	4	4	2	2	2	2
30,000	-44.5	-35	9	11	11	-34	11	12	13	-33	12	12	13	-32	12	14	14	-33	31	12	13	2	2	1	2
20,000	-21.2	-8	14	15	16	-7	15	16	17	-7	15	15	16	-6	15	16	17	-7	15	16	16	2	2	1	1
10,000	- 4.6	8	12	13	14	8	13	14	15	9	14	14	15	9	14	15	15	8	13	14	15	2	2	1	1
MIAMI TO PORT AU PRINCE																									619 N.MI.
53,000	-56.5	-75	-19	-17	-16	-74	-17	-15	-14	-71	-15	-14	-13	-76	-20	-18	-16	-74	-30	-16	-15	3	3	2	3
40,000	-56.5	-55	2	3	4	-55	2	3	4	-56	0	1	2	-54	2	3	4	-55	1	3	4	2	2	1	2
30,000	-44.5	-37	8	9	10	-35	9	10	11	-33	11	12	13	-33	12	13	14	-35	10	12	12	2	2	1	2
20,000	-21.2	-9	12	14	15	-8	13	15	15	-7	14	15	16	-6	15	14	17	-7	14	15	36	2	2	1	2
10,000	- 4.6	7	11	13	13	7	12	13	14	9	13	14	14	9	13	14	15	8	32	13	14	2	2	1	2
MIAMI TO PORT OF SPAIN																									1409 N.MI.
53,000	-56.5	-76	-20	-18	-17	-76	-19	-17	-16	-72	-16	-14	-14	-77	-20	-18	-17	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	2	4	5	-54	2	4	5	-56	1	2	2	-54	2	4	4	-55	2	3	4	3	2	2	2
30,000	-44.5	-35	9	11	11	-34	11	12	13	-33	11	12	13	-32	12	13	14	-34	11	32	13	2	2	1	2
20,000	-21.2	-8	13	15	15	-7	14	15	16	-7	14	15	16	-6	15	16	17	-7	14	16	36	2	2	1	1
10,000	- 4.6	7	12	13	14	8	12	14	14	9	13	14	15	9	14	15	15	8	13	14	15	2	2	3	1
MIAMI TO QUITO																									1559 N.MI.
53,000	-56.5	-77	-21	-19	-18	-76	-19	-18	-17	-73	-17	-15	-14	-77	-21	-19	-18	-76	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	2	4	5	-53	4	5	6	-56	1	2	3	-54	2	4	4	-54	2	4	5	2	2	2	2
30,000	-44.5	-34	10	12	12	-37	12	13	14	-33	12	13	13	-32	13	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-7	15	16	17	-6	15	17	17	-7	14	15	16	-6	16	16	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	13	15	15	9	14	15	15	10	14	15	14	9	13	15	15	2	2	1	1
MIAMI TO RIO DE JANEIRO																									3625 N.MI.
53,000	-56.5	-77	-21	-18	-17	-76	-20	-18	-17	-71	-15	-13	-12	-75	-18	-16	-15	-75	-18	-16	-14	3	3	3	3
40,000	-56.5	-54	3	5	6	-52	4	6	7	-54	2	4	5	-54	3	4	5	-53	3	5	6	3	3	2	2
30,000	-44.5	-33	11	13	14	-32	13	14	15	-33	12	13	14	-31	13	15	15	-32	12	14	15	2	2	2	2
20,000	-21.2	-6	16	17	18	-6	16	17	18	-8	13	14	15	-6	15	16	17	-6	15	16	17	2	2	2	2
10,000	- 4.6	9	14	15	16	9	14	15	16	8	13	14	14	10	14	15	16	9	14	15	16	2	2	2	2
MIAMI TO SAN JOSE																									927 N.MI.
51,900	-56.5	-76	-20	-18	-17	-74	-14	-16	-15	-73	-16	-15	-14	-77	-21	-19	-18	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-55	1	3	4	-54	2	4	4	-56	0	1	2	-54	2	4	4	-55	2	3	4	2	2	1	2
30,000	-44.5	-36	8	10	10	-35	10	11	12	-33	12	13	13	-32	12	13	34	-34	30	12	13	2	2	1	2
20,000	-21.2	-8	13	15	15	-7	14	15	16	-7	15	15	16	-6	15	16	17	-7	14	16	16	2	2	1	2
10,000	- 4.6	7	12	13	14	8	13	14	15	9	14	14	15	9	14	15	14	9	13	14	15	2	2	1	1
MIAMI TO SAN JUAN																									908 N.MI.
51,000	-56.5	-75	-19	-17	-16	-74	-17	-15	-14	-71	-15	-14	-13	-76	-19	-37	-16	-74	-37	-16	-15	3	3	2	3
40,000	-56.5	-55	2	3	4	-55	2	3	4	-56	0	1	2	-54	2	4	4	-55	1	3	4	3	2	2	2
30,000	-44.5	-37	8	9	10	-35	9	10	11	-34	11	12	12	-33	12	13	14	-35	30	11	12	2	2	1	2
20,000	-21.2	-9	12	14	14	-8	13	15	15	-7	14	15	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	- 4.6	6	11	12	13	7	11	13	14	9	13	14	14	9	13	14	15	8	12	13	34	2	2	3	2
MIAMI TO SANTA MARIA																									2861 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-8	-6	-4	-65	-9	-7	-6	-68	-12	-9	-8	-66	-10	-7	-6	5	3	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	1	3	-56	1	2	3	-56	1	3	4	-57	-0	2	3	5	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-35	9	11	12	-37	8	10	11	-39	6	8	9	3	3	2	3
20,000	-21.2	-15	6	8	10	-14	7	9	11	-8	13	14	15	-30	11	13	14	-12	9	31	13	3	3	2	3
10,000	- 4.6	1	5	8	9	1	6	8	9	7	11	13	13	6	10	12	13	4	8	10	11	4	3	2	3
MIAMI TO SANTIAGO																									3600 N.MI.
53,000	-56.5	-75	-19	-17	-16	-75	-18	-16	-15	-70	-14	-12	-11	-73	-16	-14	-13	-73	-17	-14	-13	3	3	3	3
40,000	-56.5	-54	3	5	6	-53	3	6	7	-54	3	4	5	-54	3	4	5	-54	3	5	6	3	3	2	2
30,000	-44.5	-34	11	12	13	-33	12	13	14	-34	10	12	13	-33	12	13	14	-33	11	13	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-7	15	16	17	-10	11	13	13	-7	14	16	16	-7	14	15	16	2	2	2	2
10,000	- 4.6	9	13	15	15	8	13	14	15	7	11	13	13	8	13	14	15	8	12	14	15	2	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
MIAMI TO SANTO DOMINGO																									737 N.MI.
55,000	-56.5	-75	-19	-17	-18	-78	-17	-15	-16	-71	-15	-14	-13	-76	-20	-17	-16	-74	-18	-16	-15	3	3	2	3
40,000	-56.5	-55	2	3	4	-55	2	3	4	-56	0	1	2	-54	2	4	4	-55	1	3	4	2	2	2	2
30,000	-44.5	-37	8	9	10	-35	9	11	11	-33	11	12	12	-33	12	13	14	-35	10	12	12	2	2	2	2
20,000	-21.2	-9	12	14	15	-8	13	15	15	-7	14	15	16	-6	14	16	17	-7	14	15	16	2	2	1	2
10,000	-4.6	6	11	13	13	7	11	13	14	9	13	14	14	9	13	14	15	8	12	13	14	2	2	1	2
MIAMI TO SAO PAULO																									3550 N.MI.
55,000	-56.5	-77	-20	-18	-17	-76	-19	-18	-16	-71	-15	-13	-12	-75	-18	-16	-15	-75	-18	-16	-16	3	3	3	3
40,000	-56.5	-54	3	5	6	-52	4	6	7	-54	2	4	5	-56	3	4	5	-53	3	5	6	2	3	2	2
30,000	-44.5	-33	11	13	14	-32	13	14	15	-33	12	13	14	-31	13	14	15	-32	12	14	15	2	2	2	2
20,000	-21.2	-6	16	17	18	-6	16	17	18	-8	13	14	15	-6	15	16	17	-6	15	16	17	2	2	2	2
10,000	-4.6	9	14	15	16	9	14	15	16	8	13	14	14	10	14	15	14	9	13	15	15	2	2	2	2
MIAMI TO TEGUCIGALPA																									806 N.MI.
55,000	-56.5	-78	-20	-18	-17	-76	-18	-16	-15	-72	-16	-15	-14	-77	-21	-19	-18	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-55	2	3	4	-56	2	4	4	-58	0	1	2	-54	2	4	4	-55	2	3	4	2	2	2	2
30,000	-44.5	-38	8	10	10	-35	10	11	12	-33	12	13	15	-32	12	13	14	-34	10	12	13	2	2	1	2
20,000	-21.2	-8	13	15	15	-7	14	15	16	-7	15	15	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	-4.8	7	12	13	14	8	13	14	15	9	14	14	15	9	14	15	15	8	13	14	15	2	2	1	1
MIAMI TO TRINIDAD																									1609 N.MI.
55,000	-56.5	-76	-20	-18	-17	-76	-19	-17	-16	-72	-16	-16	-16	-77	-20	-18	-17	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	2	4	5	-56	2	4	5	-56	1	2	2	-54	2	4	4	-55	2	3	4	3	2	2	2
30,000	-44.5	-35	9	11	11	-34	11	12	13	-33	11	12	13	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	13	15	15	-7	14	15	16	-7	14	15	16	-6	15	16	17	-7	14	16	16	2	2	1	1
10,000	-4.8	7	12	13	14	8	12	14	14	9	13	14	15	9	14	15	15	8	13	14	15	2	2	1	1
MIAMI TO WEST END																									89 N.MI.
55,000	-56.5	-73	-17	-15	-14	-71	-14	-12	-11	-70	-14	-13	-12	-75	-18	-16	-15	-72	-16	-14	-13	3	3	2	3
40,000	-56.5	-56	0	2	3	-55	1	3	4	-57	-0	1	3	-55	2	3	4	-56	1	2	3	3	3	2	2
30,000	-44.5	-38	8	8	9	-37	8	9	10	-33	11	12	13	-34	11	12	13	-36	9	10	11	2	2	1	2
20,000	-21.2	-10	11	13	14	-10	12	13	14	-7	14	15	16	-7	15	16	17	-8	13	15	15	2	2	1	2
10,000	-4.8	5	10	11	12	6	10	12	13	9	13	14	14	8	13	14	15	7	12	13	13	2	3	1	2
MIDWAY TO SAN FRANCISCO																									2788 N.MI.
55,000	-56.5	-63	-4	-3	-2	-59	-2	0	2	-61	-5	-2	-1	-66	-8	-5	-4	-62	-5	-2	-0	4	4	3	4
40,000	-56.5	-56	3	7	9	-57	-0	3	5	-54	3	5	6	-55	2	5	6	-55	2	4	6	4	3	3	4
30,000	-44.5	-42	2	5	7	-41	3	5	6	-36	8	10	11	-39	6	8	9	-40	5	8	9	4	3	3	4
20,000	-21.2	-14	5	8	10	-16	5	8	9	-9	12	14	15	-12	9	12	13	-13	8	11	12	4	4	3	4
10,000	-4.6	-1	4	7	8	-1	4	7	8	7	11	13	14	5	8	10	11	2	7	9	11	4	4	2	4
MIDWAY TO TOKYO																									2210 N.MI.
55,000	-56.5	-61	-5	-2	-0	-60	-4	-0	1	-63	-6	-3	-2	-64	-8	-5	-3	-62	-6	-2	-0	4	5	4	4
40,000	-56.5	-49	7	11	13	-55	1	5	7	-51	5	8	9	-53	3	6	7	-52	4	8	11	5	5	4	4
30,000	-44.5	-40	5	8	10	-38	7	9	11	-32	15	15	16	-33	11	14	15	-36	9	12	14	5	4	4	4
20,000	-21.2	-17	4	6	8	-12	9	12	13	-6	15	17	17	-9	13	15	16	-11	10	13	14	4	4	3	4
10,000	-4.6	-5	1	4	5	1	6	8	10	8	13	14	15	6	10	12	13	5	7	10	12	4	4	2	5
MILAN TO MOSCOW																									1239 N.MI.
55,000	-56.5	-56	1	4	4	-53	3	4	7	-49	7	9	11	-57	-0	2	4	-56	3	4	7	5	4	3	4
40,000	-56.5	-59	-2	1	3	-55	1	5	6	-51	4	9	10	-56	1	4	5	-55	1	5	7	5	5	4	4
30,000	-44.5	-52	-8	-5	-4	-48	-4	-1	1	-40	4	[illegible]	9	-44	0	3	4	-44	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	2	3	-16	7	10	11	-19	2	4	7	-21	0	4	4	4	5	3	5
10,000	-4.8	-15	-9	-5	-3	-7	-3	1	3	1	6	8	9	-4	0	4	4	-6	-1	2	4	4	5	3	5
MILAN TO MUNICH																									196 N.MI.
55,000	-56.5	-56	1	4	4	-55	2	4	4	-53	4	6	7	-59	-2	0	2	-56	1	4	5	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-51	4	7	9	-56	0	3	4	-56	0	4	4	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-39	5	8	9	-43	2	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-28	-5	-2	0	-21	-0	2	4	-13	9	11	12	-17	4	7	9	-19	2	5	7	5	4	3	4
10,000	-4.6	-10	-5	-2	0	-6	-1	2	3	3	8	10	11	-1	3	6	8	-3	1	5	7	5	4	3	4
MILAN TO NEW DELHI																									3324 N.MI.
55,000	-56.5	-59	-2	1	2	-57	-1	2	3	-59	-3	-0	1	-60	-4	-1	0	-59	-2	0	2	4	4	4	4
40,000	-56.5	-58	0	3	5	-55	1	4	7	-48	8	11	13	-55	1	4	5	-56	3	7	9	5	5	4	4
30,000	-44.5	-49	-4	-1	-0	-46	0	3	5	-33	12	14	16	-41	4	6	8	-42	3	7	10	4	4	4	4
20,000	-21.2	-26	-3	0	2	-18	4	7	8	-8	13	14	17	-15	6	9	10	-16	5	9	11	4	4	4	4
10,000	-4.6	-9	-4	-1	1	-1	3	6	8	8	13	15	16	1	6	8	10	-0	4	8	10	5	4	3	4
MILAN TO NEW YORK																									3460 N.MI.
55,000	-56.5	-57	-1	2	4	-54	2	5	6	-54	3	6	7	-58	-1	2	3	-56	1	4	5	4	4	4	4
40,000	-56.5	-56	1	5	7	-55	1	4	8	-53	4	7	9	-55	2	5	7	-55	2	6	8	4	6	5	5
30,000	-44.5	-49	-4	-1	0	-47	-2	0	2	-40	5	8	9	-43	1	4	6	-45	-0	4	6	4	4	4	4
20,000	-21.2	-25	-4	-0	2	-22	-1	2	4	-13	8	10	12	-18	4	7	9	-20	2	5	7	4	5	4	4
10,000	-4.6	-11	-4	-2	0	-7	-2	1	3	2	7	9	10	-3	2	5	7	-5	-0	4	5	4	5	3	5
MILAN TO OSLO																									859 N.MI.
55,000	-56.5	-57	-0	3	5	-53	3	6	7	-49	7	9	10	-57	-1	2	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-59	-2	2	4	-55	2	6	8	-51	6	9	11	-56	0	4	5	-55	1	6	8	6	6	5	5
30,000	-44.5	-51	-7	-4	-3	-49	-4	-1	0	-41	5	6	7	-45	-0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	2	-15	7	9	10	-19	2	5	7	-21	-0	4	6	6	4	3	5
10,000	-4.6	-12	-8	-4	-2	-7	-3	0	2	1	6	8	9	-4	0	4	5	-6	-1	2	4	6	5	3	5
MILAN TO PARIS																									324 N.MI.
55,000	-56.5	-57	-0	3	5	-55	2	4	6	-53	4	6	7	-59	-2	0	2	-56	1	4	5	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-53	4	7	9	-56	0	3	5	-56	0	4	6	6	6	5	4
30,000	-44.5	-50	-5	-1	-1	-47	-3	0	2	-39	5	8	9	-43	1	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-4	-1	1	-21	-0	3	4	-13	8	10	12	-17	4	7	9	-19	2	5	7	5	4	3	4
10,000	-4.6	-9	-4	-1	1	-5	-1	2	4	3	8	10	11	-1	3	6	8	-3	2	5	7	5	4	3	4
MILAN TO PRAGUE																									349 N.MI.
55,000	-56.5	-56	1	4	6	-54	2	5	6	-52	5	7	8	-58	-2	1	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-0	3	5	-52	4	7	9	-56	0	3	5	-56	1	4	6	5	5	5	4
30,000	-44.5	-51	-6	-3	-2	-48	-3	-0	1	-40	5	7	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-22	-1	2	4	-13	8	10	11	-17	4	7	8	-20	1	5	7	5	4	3	4
10,000	-4.6	-11	-6	-2	-0	-6	-1	2	3	3	7	9	11	-2	3	5	7	-6	1	4	6	5	4	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
MILAN TO ROME																									285 N.MI.
55,000	-56.5	-56	0	4	5	-56	1	3	5	-56	1	3	4	-60	-3	-1	1	-57	-0	3	4	5	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	4	-52	4	7	8	-56	0	3	4	-56	0	4	6	5	5	4	4
30,000	-44.5	-50	-5	-2	-1	-47	-2	1	2	-38	6	9	10	-42	2	5	6	-44	0	4	6	4	4	3	4
20,000	-21.2	-25	-4	-1	1	-20	1	3	5	-12	10	12	13	-16	5	8	9	-18	3	6	8	5	4	3	4
10,000	-4.6	-8	-3	-0	2	-4	0	3	5	5	9	12	13	-1	4	7	8	-2	3	6	8	5	4	3	4
MILAN TO SAN FRANCISCO																									5151 N.MI.
55,000	-56.5	-57	-1	3	5	-51	5	8	9	-50	7	9	10	-56	1	3	5	-53	3	6	8	6	4	3	4
40,000	-56.5	-56	1	5	7	-52	4	8	10	-50	7	10	12	-53	3	7	9	-53	4	8	10	6	6	5	5
30,000	-44.5	-53	-8	-5	-4	-49	-5	-2	-0	-42	2	5	6	-47	-2	1	2	-48	-3	0	2	4	4	4	4
20,000	-21.2	-32	-11	-7	-4	-27	-6	-2	-0	-17	5	7	8	-23	-2	2	4	-25	-3	1	3	6	5	4	6
10,000	-4.6	-17	-12	-8	-6	-12	-7	-3	-2	-1	4	6	8	-8	-3	1	3	-9	-5	-0	2	6	5	4	6
MILAN TO SANTA MARIA																									1599 N.MI.
55,000	-56.5	-59	-3	0	2	-57	-1	2	4	-58	-1	1	3	-61	-4	-2	-1	-59	-2	1	3	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-2	2	4	-54	3	6	7	-57	-0	3	4	-57	-0	3	5	6	6	4	4
30,000	-44.5	-47	-3	-0	1	-45	-1	2	3	-38	7	9	10	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-22	-0	3	4	-19	2	5	6	-11	10	12	13	-15	7	9	10	-17	5	8	9	5	4	3	4
10,000	-4.6	-5	-0	3	5	-2	2	5	6	5	10	12	13	1	6	8	9	-0	4	8	9	4	4	3	4
MILAN TO SHANNON																									808 N.MI.
55,000	-56.5	-57	-1	3	4	-54	2	5	6	-52	5	7	9	-58	-2	1	3	-55	1	4	6	5	4	4	4
40,000	-56.5	-58	-2	3	5	-56	0	5	7	-52	5	8	10	-56	0	4	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-5	-3	-1	-47	-3	0	1	-40	4	7	8	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-25	-4	-0	2	-22	-1	3	4	-14	8	10	11	-18	4	7	8	-20	2	5	7	5	5	3	5
10,000	-4.6	-9	-4	-1	1	-5	-1	2	3	2	7	9	10	-2	3	6	7	-3	1	4	6	5	4	3	4
MILAN TO STOCKHOLM																									903 N.MI.
55,000	-56.5	-57	-0	3	5	-53	3	6	7	-49	7	9	11	-57	-1	2	3	-54	2	6	7	5	4	3	4
40,000	-56.5	-59	-2	2	4	-55	1	5	8	-51	6	9	11	-56	0	4	5	-55	1	6	8	5	6	5	5
30,000	-44.5	-52	-7	-4	-3	-49	-4	-2	-0	-41	4	6	8	-45	-0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-29	-7	-3	-1	-24	-2	1	2	-14	7	9	10	-19	2	5	7	-21	-0	3	5	6	4	3	5
10,000	-4.6	-15	-8	-4	-2	-8	-3	-0	2	1	6	8	9	-4	0	3	5	-6	-1	2	4	6	5	3	5
MILAN TO TEHERAN																									2003 N.MI.
55,000	-56.5	-57	-0	3	4	-56	1	3	4	-58	-2	0	2	-60	-3	-1	1	-58	-1	1	3	4	4	3	4
40,000	-56.5	-57	-0	3	4	-56	0	4	6	-48	8	10	12	-56	0	3	4	-54	2	6	8	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-46	-1	1	3	-34	10	12	14	-42	2	5	6	-41	1	4	6	5	5	4	4
20,000	-21.2	-25	-4	-1	1	-20	2	4	6	-9	12	14	15	-16	5	8	9	-17	4	7	9	5	4	4	4
10,000	-4.6	-10	-5	-2	0	-3	2	4	6	6	11	13	14	0	5	8	9	-2	3	7	9	5	4	3	4
MILAN TO TEL AVIV-JAFFA																									1462 N.MI.
55,000	-56.5	-58	-2	1	1	-57	-1	2	3	-62	-5	-1	-2	-61	-5	-3	-1	-60	-3	-0	1	4	3	3	3
40,000	-56.5	-56	0	3	5	-57	-1	3	5	-49	8	10	11	-56	0	2	4	-55	2	5	7	5	5	3	3
30,000	-44.5	-49	-4	-2	-1	-45	-1	1	3	-34	10	13	14	-41	3	6	7	-42	2	4	8	3	3	3	3
20,000	-21.2	-24	-2	0	2	-19	2	5	6	-9	12	14	15	-15	6	8	9	-17	5	8	10	4	4	3	3
10,000	-4.6	-8	-3	-0	1	-3	2	5	6	7	11	13	14	2	6	8	10	-0	4	8	9	4	4	3	3
MILAN TO TRIPOLI																									605 N.MI.
55,000	-56.5	-58	-2	1	1	-58	-1	1	3	-61	-4	-2	-1	-61	-5	-3	-1	-60	-3	-0	1	5	4	3	3
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-51	6	8	9	-56	0	3	4	-55	1	5	6	5	5	3	4
30,000	-44.5	-48	-3	-1	0	-45	-1	2	3	-16	8	11	12	-41	3	6	7	-43	2	5	7	3	4	3	4
20,000	-21.2	-25	-2	1	3	-18	3	5	6	-10	11	13	14	-15	7	9	10	-16	5	8	10	4	3	3	3
10,000	-4.6	-6	-1	2	3	-2	3	6	7	8	12	14	15	1	6	8	9	0	5	8	10	4	4	3	3
MILAN TO TUNIS																									531 N.MI.
55,000	-56.5	-57	-1	2	4	-57	-0	2	4	-59	-2	0	1	-61	-4	-2	-1	-58	-2	1	3	5	4	3	3
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-51	5	8	9	-56	0	3	4	-56	1	4	6	5	5	4	4
30,000	-44.5	-48	-4	-1	-0	-46	-1	1	2	-38	7	9	11	-42	3	6	7	-43	1	5	6	4	4	3	4
20,000	-21.2	-24	-2	1	2	-19	2	4	5	-11	11	12	13	-15	6	8	9	-17	4	7	9	5	4	3	3
10,000	-4.6	-6	-2	1	1	-2	2	5	6	7	11	11	15	0	5	7	9	-0	4	8	10	5	4	3	3
MILAN TO VIENNA																									355 N.MI.
55,000	-56.5	-56	1	4	5	-55	2	4	6	-53	4	6	8	-59	-2	0	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-1	1	5	-52	4	7	9	-56	0	3	4	-56	1	4	6	5	5	4	4
30,000	-44.5	-51	-6	-3	-2	-47	-3	-0	1	-39	5	8	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-5	-2	0	-22	-0	2	4	-13	8	11	12	-17	4	7	8	-20	2	5	7	4	4	4	4
10,000	-4.6	-10	-6	-2	-0	-6	-1	2	3	3	8	10	11	-2	3	6	7	-4	1	4	6	5	4	3	4
MILAN TO WARSAW																									621 N.MI.
55,000	-56.5	-56	1	4	6	-54	2	5	6	-51	5	8	9	-58	-1	1	2	-55	2	5	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	0	4	5	-52	5	8	10	-55	0	3	5	-56	1	5	7	5	5	5	4
30,000	-44.5	-51	-7	-4	-3	-48	-3	-1	1	-40	5	7	8	-44	1	4	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	3	-13	8	10	11	-18	3	6	8	-20	1	5	6	5	4	3	5
10,000	-4.6	-12	-7	-3	-1	-7	-2	1	1	2	7	9	10	-3	2	5	7	-5	-0	3	5	6	5	3	5
MILAN TO ZURICH																									109 N.MI.
55,000	-56.5	-56	0	4	5	-55	2	4	6	-53	3	6	7	-57	-2	0	2	-56	1	4	5	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	3	5	-53	4	7	8	-56	0	3	4	-56	0	4	6	6	6	4	4
30,000	-44.5	-50	-6	-3	-1	-47	-3	0	2	-39	5	8	9	-43	2	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-21	-0	3	4	-13	9	11	12	-17	4	7	9	-19	2	6	7	5	4	3	4
10,000	-4.6	-9	-5	-1	1	-5	-1	2	4	3	8	10	11	-1	3	6	8	-3	1	5	7	5	4	3	4
MINNEAPOLIS TO WINNIPEG																									342 N.MI.
55,000	-56.5	-57	-1	3	4	-55	1	4	5	-56	0	2	4	-59	-2	0	2	-57	-0	2	4	5	4	3	4
40,000	-56.5	-54	2	6	8	-55	1	5	7	-53	3	6	7	-55	1	5	7	-55	2	5	7	6	6	4	5
30,000	-44.5	-52	-7	-5	-3	-48	-4	-2	-0	-38	6	9	10	-44	0	3	4	-46	-1	3	5	4	3	3	4
20,000	-21.2	-30	-9	-5	-3	-23	-2	1	3	-12	10	12	13	-19	2	6	8	-21	0	4	7	6	5	3	5
10,000	-4.6	-17	-12	-7	-4	-8	-3	1	3	4	9	12	13	-3	2	6	8	-6	-1	4	6	7	6	4	6
MONTEGO BAY TO NASSAU																									394 N.MI.
55,000	-56.5	-75	-19	-17	-16	-74	-17	-15	-15	-72	-15	-14	-13	-76	-20	-18	-17	-74	-18	-16	-15	3	3	2	3
40,000	-56.5	-55	2	3	4	-54	2	3	4	-56	0	1	2	-54	2	3	4	-55	2	3	4	2	2	1	2
30,000	-44.5	-37	8	9	10	-35	9	11	11	-33	11	12	13	-33	12	13	14	-34	10	12	13	2	2	1	2
20,000	-21.2	-9	13	14	15	-8	13	15	16	-7	15	15	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	-4.6	7	11	13	13	7	12	13	14	9	13	14	14	9	13	14	15	8	12	14	14	2	2	1	1

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
MONTEGO BAY TO NEW ORLEANS																									968 N.MI.
55,000	-56.5	-74	-10	-16	-15	-72	-14	-14	-15	-71	-15	-14	-13	-76	-19	-17	-16	-73	-17	-15	-14	3	3	2	3
40,000	-56.5	-56	1	7	3	-55	1	3	4	-56	0	1	2	-55	2	3	4	-55	1	3	3	2	2	1	2
30,000	-44.5	-58	7	8	9	-56	8	9	10	-55	12	12	13	-55	11	12	13	-55	9	11	12	2	2	1	2
20,000	-21.2	-10	11	13	14	-9	12	14	15	-7	15	15	16	-7	15	16	16	-8	13	14	15	2	2	1	2
10,000	-4.6	4	10	12	13	7	11	13	14	9	14	14	15	9	13	14	15	8	12	13	14	2	3	1	2
MONTEGO BAY TO NEW YORK																									1365 N.MI.
55,000	-56.5	-70	-14	-12	-10	-68	-11	-9	-8	-68	-12	-10	-9	-72	-15	-13	-12	-69	-13	-11	-9	3	3	2	4
40,000	-56.5	-57	-0	2	4	-57	-6	2	4	-56	1	2	2	-55	2	3	4	-56	0	3	4	3	3	2	3
30,000	-44.5	-60	4	6	7	-59	6	7	8	-54	11	12	13	-55	9	11	12	-57	7	9	10	3	3	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-7	14	15	16	-9	13	14	15	-10	11	13	14	3	3	2	2
10,000	-4.6	2	4	8	10	3	8	10	11	8	12	13	14	4	11	13	14	5	9	11	12	3	3	1	2
MONTEGO BAY TO TORONTO																									1513 N.MI.
55,000	-56.5	-69	-12	-10	-9	-67	-10	-8	-7	-68	-11	-9	-8	-71	-14	-12	-11	-68	-12	-9	-8	3	3	3	4
40,000	-56.5	-57	-0	2	4	-56	0	3	4	-56	1	2	3	-55	1	3	5	-56	1	3	4	4	4	2	3
30,000	-44.5	-61	3	5	6	-60	5	6	1	-54	10	12	12	-54	8	10	11	-58	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	10	-13	8	10	12	-8	14	15	15	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	-4.6	0	5	7	8	2	7	9	10	8	12	13	14	4	10	12	13	4	8	10	11	4	3	2	3
MONTEGO BAY TO NASSAU																									1255 N.MI.
55,000	-56.5	-73	-17	-15	-14	-71	-15	-13	-12	-71	-15	-14	-13	-76	-19	-17	-16	-73	-16	-14	-13	3	3	2	3
40,000	-56.5	-56	0	2	3	-55	1	3	4	-56	0	1	2	-55	2	3	4	-56	1	2	3	3	3	1	2
30,000	-44.5	-58	4	8	8	-57	7	9	9	-55	12	13	13	-54	11	12	13	-56	9	11	11	2	2	1	2
20,000	-21.2	-11	11	12	13	-10	11	13	14	-6	15	16	16	-7	14	16	16	-8	13	14	15	3	2	1	2
10,000	-4.6	5	10	12	13	7	12	14	15	9	14	15	15	9	13	15	15	8	12	13	14	3	3	1	2
MONTEVIDEO TO PORTO ALEGRE																									380 N.MI.
55,000	-56.5	-65	-9	-6	-5	-66	-8	-5	-4	-59	-2	1	2	-60	-3	-0	1	-62	-5	-2	-0	4	4	4	4
40,000	-56.5	-55	3	6	8	-55	1	5	6	-52	5	8	9	-56	1	6	7	-55	3	6	8	5	5	4	4
30,000	-44.5	-59	6	4	10	-58	4	8	10	-44	1	3	4	-59	6	9	10	-60	5	7	9	4	4	4	4
20,000	-21.2	-11	11	13	14	-13	8	10	12	-19	2	5	6	-13	9	11	12	-16	7	10	12	3	3	3	4
10,000	-4.6	8	12	14	15	4	9	11	12	-1	3	5	6	2	7	9	10	3	8	11	12	3	3	3	3
MONTEVIDEO TO RIO DE JANEIRO																									904 N.MI.
55,000	-56.5	-68	-12	-9	-8	-67	-11	-8	-7	-61	-5	-2	-0	-62	-6	-3	-2	-65	-8	-5	-3	4	4	4	4
40,000	-56.5	-55	4	7	8	-56	2	5	7	-52	5	7	9	-56	3	5	7	-55	3	6	8	4	5	4	4
30,000	-44.5	-57	8	10	11	-57	8	10	11	-61	3	6	7	-57	7	10	11	-58	7	9	10	3	3	4	4
20,000	-21.2	-8	13	15	16	-12	10	12	13	-16	5	7	9	-11	10	12	13	-12	9	12	14	3	3	3	3
10,000	-4.6	8	13	15	16	4	11	12	14	1	5	7	8	4	9	11	12	5	9	12	13	3	3	3	3
MONTEVIDEO TO SAO PAULO																									832 N.MI.
55,000	-56.5	-68	-12	-9	-7	-67	-11	-8	-7	-61	-5	-2	0	-62	-6	-3	-2	-65	-8	-4	-3	4	4	4	4
40,000	-56.5	-55	4	7	8	-56	2	5	7	-52	5	7	9	-56	3	5	7	-55	3	6	8	4	5	4	4
30,000	-44.5	-57	8	10	11	-57	7	10	11	-62	3	5	7	-57	7	10	11	-58	6	9	10	3	3	4	4
20,000	-21.2	-8	13	15	16	-12	9	12	13	-16	5	7	8	-11	10	12	13	-12	9	12	14	3	3	3	4
10,000	-4.6	8	13	15	16	4	10	12	13	1	5	7	8	4	9	11	12	5	9	12	13	3	3	3	3
MONTEVIDEO TO TRINIDAD																									2765 N.MI.
55,000	-56.5	-75	-18	-16	-15	-76	-18	-15	-14	-69	-12	-10	-8	-71	-14	-12	-11	-72	-16	-13	-11	3	3	4	3
40,000	-56.5	-55	3	6	7	-55	4	6	8	-55	4	5	6	-56	3	5	6	-55	3	6	7	3	4	3	3
30,000	-44.5	-55	11	13	14	-52	12	14	15	-55	10	11	12	-55	12	14	15	-55	11	13	14	2	3	3	3
20,000	-21.2	-6	15	17	18	-6	15	16	17	-11	10	12	13	-7	14	15	16	-8	14	16	17	2	2	2	2
10,000	-4.6	9	14	15	16	9	13	15	15	6	10	12	12	9	13	14	15	8	13	14	15	2	2	2	2
MONTREAL TO MOSCOW																									3799 N.MI.
55,000	-56.5	-57	-1	3	4	-50	4	9	11	-47	10	12	13	-54	3	5	7	-52	4	8	9	5	5	3	4
40,000	-56.5	-56	1	5	7	-51	4	10	12	-49	8	11	13	-52	4	8	10	-52	5	9	11	4	4	5	6
30,000	-44.5	-53	-9	-6	-4	-50	-5	-2	-0	-45	1	4	6	-47	-3	0	2	-48	-4	0	2	4	4	4	5
20,000	-21.2	-33	-11	-7	-5	-28	-7	-3	-1	-18	4	4	8	-24	-3	1	3	-26	-4	-0	2	4	4	4	5
10,000	-4.6	-14	-13	-9	-7	-13	-9	-5	-3	-3	2	4	6	-9	-4	-1	1	-11	-4	-2	0	6	6	6	6
MONTREAL TO NASSAU																									1258 N.MI.
55,000	-56.5	-66	-9	-7	-6	-63	-7	-4	-3	-65	-9	-7	-6	-68	-11	-9	-7	-66	-9	-6	-5	3	3	4	3
40,000	-56.5	-57	-0	3	4	-57	-0	3	4	-55	1	3	4	-55	1	4	5	-56	0	3	4	4	4	2	3
30,000	-44.5	-61	1	3	4	-62	2	4	6	-55	10	11	12	-58	7	9	10	-60	5	8	9	3	3	3	3
20,000	-21.2	-17	4	7	8	-16	4	8	9	-8	13	14	15	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	-4.6	-3	1	4	4	-1	4	7	8	7	11	13	13	4	9	11	12	2	4	9	10	4	4	2	3
MONTREAL TO NEW ORLEANS																									1210 N.MI.
55,000	-56.5	-66	-7	-5	-3	-61	-5	-2	-1	-64	-8	-6	-4	-66	-10	-7	-5	-64	-7	-4	-3	4	4	4	4
40,000	-56.5	-57	-0	1	3	-57	-1	3	5	-54	2	4	5	-55	1	4	5	-56	1	3	4	3	5	3	4
30,000	-44.5	-65	-0	2	3	-63	1	3	5	-15	10	11	12	-39	5	7	9	-41	4	7	8	3	4	3	3
20,000	-21.2	-20	1	4	6	-17	4	7	8	-9	13	14	15	-12	9	11	13	-15	7	10	11	3	4	2	3
10,000	-4.6	-6	-1	2	4	-2	3	6	7	7	11	13	14	3	8	11	12	1	5	8	10	5	4	2	4
MONTREAL TO NEW YORK																									290 N.MI.
55,000	-56.5	-59	-2	1	2	-57	-0	2	4	-59	-3	-0	1	-61	-5	-1	0	-59	-2	1	2	4	4	4	5
40,000	-56.5	-56	1	5	7	-55	1	5	7	-56	3	5	6	-55	2	5	7	-55	2	4	6	4	4	4	5
30,000	-44.5	-44	-4	-1	0	-47	-2	0	2	-37	7	10	11	-42	3	5	7	-43	1	5	7	4	4	3	5
20,000	-21.2	-25	-4	0	2	-22	-1	2	4	-11	10	13	14	-16	5	9	10	-18	3	7	9	5	5	3	5
10,000	-4.6	-12	-8	-3	-1	-7	-3	1	3	4	9	11	12	-0	4	8	10	-4	1	4	6	4	5	3	5
MONTREAL TO OSLO																									2962 N.MI.
55,000	-56.5	-57	-0	3	5	-51	6	9	10	-48	9	11	12	-56	2	5	7	-52	4	7	9	5	5	3	4
40,000	-56.5	-56	2	6	9	-51	6	10	13	-49	7	11	13	-52	4	8	10	-52	5	9	11	6	7	5	6
30,000	-44.5	-52	-8	-5	-3	-49	-4	-2	-0	-45	1	4	6	-47	-2	1	3	-48	-3	1	3	6	6	6	5
20,000	-21.2	-32	-11	-8	-6	-28	-6	-3	-1	-17	4	7	8	-23	-2	2	4	-25	-4	-1	3	6	4	4	5
10,000	-4.6	-17	-13	-8	-6	-13	-8	-4	-2	-2	2	5	6	-8	-4	0	2	-10	-5	-1	1	6	5	3	6
MONTREAL TO PARIS																									2979 N.MI.
55,000	-56.5	-57	-0	3	5	-53	4	6	8	-51	5	8	9	-56	1	4	5	-54	2	6	7	4	4	4	4
40,000	-56.5	-56	2	6	9	-54	3	7	10	-51	5	9	11	-54	3	7	9	-53	3	7	9	4	7	5	4
30,000	-44.5	-50	-5	-2	-1	-48	-1	-0	1	-41	3	6	8	-44	0	3	4	-46	-1	3	4	4	4	4	6
20,000	-21.2	-28	-7	-2	0	-24	-3	0	2	-15	7	9	11	-20	1	5	7	-22	-1	4	6	7	4	4	4
10,000	-4.6	-14	-9	-5	-3	-9	-4	-1	1	0	5	7	8	-5	-0	3	5	-7	-2	2	4	4	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																				STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
MONTREAL TO PHILADELPHIA																									341 N.MI.
53,000	-56.5	-59	-3	0	2	-57	-1	2	3	-60	-3	-1	1	-61	-5	-2	-0	-59	-3	0	2	4	4	4	5
40,000	-56.5	-56	1	5	7	-55	1	5	7	-54	3	5	6	-55	2	5	7	-55	2	4	6	6	6	3	5
30,000	-44.5	-48	-4	-1	0	-46	-2	0	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	0	2	-22	-0	3	4	-11	11	13	14	-15	6	9	11	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-0	-7	-2	1	3	5	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5
MONTREAL TO PRESTWICK																									2593 N.MI.
53,000	-56.5	-56	0	3	5	-52	5	7	9	-50	7	9	11	-55	2	5	6	-53	3	7	8	5	4	4	4
40,000	-56.5	-54	3	7	10	-52	4	9	11	-50	6	10	12	-53	4	8	10	-52	4	8	10	7	7	5	6
30,000	-44.5	-50	-6	-3	-1	-48	-4	-1	1	-42	2	5	7	-45	-1	2	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-30	-9	-4	-2	-26	-5	-1	1	-16	6	8	10	-21	-0	4	6	-23	-2	2	5	7	6	4	6
10,000	- 4.6	-16	-11	-7	-4	-11	-6	-3	-1	-1	4	6	7	-6	-2	2	4	-8	-4	0	2	7	5	3	6
MONTREAL TO ROME																									3566 N.MI.
53,000	-56.5	-57	-0	3	4	-54	3	5	7	-53	4	7	8	-57	-0	2	4	-55	2	5	6	4	4	4	4
40,000	-56.5	-55	1	5	8	-55	2	6	8	-52	5	8	10	-54	2	6	8	-54	2	6	8	6	6	5	5
30,000	-44.5	-49	-5	-2	-0	-47	-3	-0	1	-40	4	7	8	-44	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-1	1	-23	-2	1	3	-14	7	10	11	-19	3	6	8	-21	1	4	7	6	5	4	5
10,000	- 4.6	-12	-8	-3	-1	-7	-3	0	2	1	6	8	9	-4	1	4	6	-5	-1	3	5	6	5	3	5
MONTREAL TO ST. LOUIS																									840 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-1	1	3	-61	-4	-2	-0	-62	-6	-3	-1	-60	-4	-0	1	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	0	4	6	-54	3	5	6	-55	1	5	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-4	-1	0	-46	-2	1	2	-36	8	10	11	-42	3	5	7	-43	1	5	7	4	3	3	4
20,000	-21.2	-25	-4	-0	2	-21	1	4	5	-10	11	13	14	-15	6	9	11	-18	4	7	9	5	5	3	5
10,000	- 4.6	-11	-7	-2	-0	-6	-1	2	4	5	10	12	13	1	5	9	10	-3	2	6	8	6	5	3	5
MONTREAL TO SAN FRANCISCO																									2199 N.MI.
53,000	-56.5	-59	-3	0	2	-57	-1	2	3	-60	-4	-1	-0	-61	-5	-2	-1	-60	-3	-0	2	4	4	3	4
40,000	-56.5	-56	1	5	8	-56	0	4	6	-54	2	5	6	-56	1	4	6	-55	1	4	5	7	6	3	5
30,000	-44.5	-49	-5	-3	-1	-47	-2	-0	1	-37	7	10	11	-42	2	5	6	-44	1	4	6	4	3	3	4
20,000	-21.2	-26	-5	-1	2	-21	-0	3	4	-10	11	13	14	-16	5	8	10	-18	3	7	9	6	4	3	5
10,000	- 4.6	-11	-7	-2	0	-5	-0	3	5	8	12	15	16	0	5	9	11	-2	3	7	9	7	5	3	6
MONTREAL TO SANTA MARIA																									2216 N.MI.
53,000	-56.5	-59	-2	0	2	-56	0	3	4	-58	-2	1	2	-60	-4	-1	1	-59	-2	1	2	4	4	4	5
40,000	-56.5	-57	-0	4	6	-56	0	4	6	-54	2	5	6	-55	1	5	6	-56	1	4	6	6	6	4	5
30,000	-44.5	-47	-2	0	2	-46	-1	1	3	-38	7	9	11	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-23	-1	2	4	-21	1	4	5	-11	10	12	15	-15	6	9	11	-17	4	7	9	6	5	3	5
10,000	- 4.6	-8	-4	0	2	-5	-0	3	4	4	9	10	11	-0	5	7	9	-2	2	5	7	6	5	3	4
MONTREAL TO SEATTLE																									1978 N.MI.
53,000	-56.5	-57	-0	3	5	-54	2	5	6	-55	2	4	5	-58	-2	1	2	-56	0	3	5	5	4	4	4
40,000	-56.5	-55	2	6	8	-55	2	6	8	-53	3	6	8	-55	2	5	7	-54	2	5	7	6	6	4	5
30,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-1	-39	5	8	9	-44	0	3	4	-46	-2	2	4	4	4	3	4
20,000	-21.2	-30	-9	-5	-2	-24	-3	0	2	-13	8	11	12	-20	2	5	7	-22	-0	4	6	7	5	3	5
10,000	- 4.6	-17	-12	-7	-4	-9	-4	-0	2	4	8	11	12	-4	1	5	7	-6	-2	3	5	7	6	4	6
MONTREAL TO SHANNON																									2496 N.MI.
53,000	-56.5	-56	0	3	5	-52	4	7	8	-51	6	8	10	-55	1	4	6	-54	3	6	8	4	4	4	4
40,000	-56.5	-54	3	7	10	-53	4	8	11	-51	5	9	11	-53	3	7	9	-53	4	8	10	6	7	5	6
30,000	-44.5	-50	-5	-2	-1	-48	-3	-1	1	-41	3	6	8	-45	-0	3	4	-46	-1	2	4	4	4	4	4
20,000	-21.2	-29	-8	-1	-1	-25	-4	-0	2	-15	6	9	10	-20	1	5	7	-22	-1	3	5	7	6	4	6
10,000	- 4.6	-15	-10	-6	-4	-10	-5	-2	0	-0	4	7	8	-6	-1	3	5	-8	-3	1	3	7	5	3	5
MONTREAL TO STOCKHOLM																									3167 N.MI.
53,000	-56.5	-57	-1	1	5	-50	6	9	10	-48	9	11	12	-54	3	5	7	-52	4	7	9	5	4	3	4
40,000	-56.5	-55	2	6	8	-51	6	10	11	-49	8	11	13	-52	4	8	10	-52	5	9	11	6	7	5	6
30,000	-44.5	-52	-8	-5	-3	-49	-5	-2	-0	-43	1	4	6	-47	-2	1	2	-48	-3	0	2	4	4	4	5
20,000	-21.2	-32	-11	-7	-4	-28	-7	-3	-1	-17	4	7	8	-24	-2	2	4	-25	-4	0	3	6	6	4	6
10,000	- 4.6	-17	-13	-9	-6	-13	-8	-5	-3	-2	2	5	6	-9	-4	-0	2	-10	-6	-2	1	6	5	3	6
MONTREAL TO TAMPA																									1130 N.MI.
53,000	-56.5	-65	-8	-6	-4	-63	-6	-3	-2	-65	-8	-6	-5	-67	-10	-8	-6	-65	-8	-5	-4	4	4	3	4
40,000	-56.5	-57	-1	2	4	-57	-0	3	4	-55	2	3	4	-55	1	4	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-44	0	2	4	-43	2	4	5	-35	10	11	12	-39	6	8	9	-40	4	7	9	3	3	3	3
20,000	-21.2	-19	3	5	7	-17	5	7	9	-9	13	14	15	-12	9	12	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-5	-0	3	5	-1	3	6	8	7	11	13	13	5	8	11	12	1	6	8	10	5	4	2	4
MONTREAL TO TRINIDAD																									2187 N.MI.
53,000	-56.5	-70	-13	-11	-10	-68	-12	-10	-9	-68	-11	-9	-8	-71	-15	-12	-11	-69	-13	-11	-9	3	3	3	4
40,000	-56.5	-56	1	4	5	-56	1	3	4	-56	1	2	3	-55	2	4	5	-55	1	3	4	4	4	2	3
30,000	-44.5	-40	4	6	7	-39	6	8	8	-35	10	11	12	-35	9	11	12	-37	7	9	10	3	3	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-8	11	15	15	-9	12	14	15	-11	11	12	13	3	3	2	3
10,000	- 4.6	1	6	8	9	3	7	9	10	7	12	13	14	6	10	12	13	4	9	11	12	4	3	2	3
MONTREAL TO VANCOUVER																									1986 N.MI.
53,000	-56.5	-56	0	3	5	-54	3	5	7	-54	3	5	6	-57	-1	2	3	-55	1	4	6	5	4	4	4
40,000	-56.5	-55	2	6	8	-54	2	6	8	-53	4	7	8	-55	2	5	7	-54	2	6	7	6	6	4	5
30,000	-44.5	-52	-8	-5	-3	-49	-5	-2	-1	-40	5	7	9	-45	-0	2	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-31	-10	-5	-3	-25	-3	0	2	-11	8	10	11	-20	1	5	7	-22	-1	3	5	7	5	4	5
10,000	- 4.6	-18	-13	-8	-5	-9	-5	-1	1	3	7	10	11	-4	0	4	7	-7	-3	2	5	8	5	4	6
MONTREAL TO VIENNA																									3487 N.MI.
53,000	-56.5	-56	0	3	5	-52	4	7	8	-50	7	9	10	-56	1	4	5	-54	3	6	8	5	4	4	4
40,000	-56.5	-55	2	6	8	-53	4	8	10	-51	6	9	11	-54	3	7	9	-53	3	8	10	6	7	5	6
30,000	-44.5	-50	-6	-3	-1	-48	-3	-1	1	-42	3	6	7	-45	-0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-3	-1	-25	-4	-0	2	-15	6	9	10	-21	1	4	6	-22	-1	3	5	7	5	4	5
10,000	- 4.6	-14	-10	-6	-3	-10	-5	-2	0	-0	4	7	8	-5	-1	3	5	-7	-3	1	3	6	5	3	5
MONTREAL TO WARSAW																									3489 N.MI.
53,000	-56.5	-57	-0	3	5	-52	5	8	9	-49	8	10	12	-55	2	4	6	-53	4	7	9	5	4	4	4
40,000	-56.5	-55	2	6	8	-52	5	9	12	-50	7	10	12	-53	3	7	9	-52	4	8	10	6	7	5	6
30,000	-44.5	-51	-7	-4	-2	-48	-4	-1	0	-42	2	5	6	-46	-1	2	3	-47	-2	1	3	4	4	4	4
20,000	-21.2	-30	-9	-5	-3	-26	-5	-1	1	-16	5	8	9	-22	-1	3	5	-24	-3	2	4	7	5	4	6
10,000	- 4.6	-16	-11	-7	-5	-11	-6	-3	-1	-1	3	6	7	-7	-2	1	3	-9	-4	-0	2	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50*	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
MONTREAL TO WASHINGTON, D.C.																									475 N.MI.
55,000	-56.5	-60	-3	-0	1	-58	-1	2	3	-60	-4	-1	0	-62	-5	-2	-1	-60	-3	-0	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	1	5	7	-54	3	5	6	-55	2	5	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-1	1	-46	-2	1	2	-37	8	10	11	-42	3	6	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	1	3	-21	0	3	5	-10	11	13	14	-15	6	9	11	-18	4	7	9	5	5	3	5
10,000	-4.6	-11	-6	-2	0	-6	-2	2	3	5	9	11	12	0	5	8	10	-3	2	5	7	6	5	3	5
MONTREAL TO WINNIPEG																									981 N.MI.
55,000	-56.5	-57	-0	3	5	-54	2	5	6	-54	2	5	6	-57	-1	2	3	-56	1	4	5	5	4	4	4
40,000	-55.5	-54	3	7	9	-54	3	7	9	-52	4	7	8	-54	3	6	8	-55	3	6	8	6	6	4	5
30,000	-44.5	-52	-8	-5	-3	-49	-4	-2	-1	-39	5	8	9	-45	-0	2	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-32	-10	-6	-4	-25	-4	-1	1	-13	8	11	12	-20	1	5	7	-22	-1	3	6	6	5	4	6
10,000	-4.6	-19	-14	-9	-7	-10	-6	-2	0	2	6	9	11	-4	0	5	7	-8	-3	1	4	7	6	4	6
MONTREAL TO ZURICH																									3236 N.MI.
55,000	-56.5	-57	-0	3	5	-53	4	4	8	-51	5	8	10	-56	1	3	5	-54	2	6	7	4	4	4	4
40,000	-56.5	-55	2	6	8	-54	3	7	10	-51	5	9	11	-54	3	6	8	-53	3	7	9	6	7	5	6
30,000	-44.5	-50	-5	-2	-1	-48	-3	-0	1	-41	3	6	8	-44	0	3	4	-46	-1	2	4	4	4	4	4
20,000	-21.2	-28	-7	-2	-0	-24	-3	0	2	-15	7	9	11	-20	1	5	7	-22	-1	4	6	7	5	4	5
10,000	-4.6	-16	-9	-5	-2	-9	-4	-1	1	0	5	7	8	-5	-0	3	5	-7	-2	2	4	6	5	3	5
MOSCOW TO MUNICH																									1051 N.MI.
55,000	-56.5	-56	1	4	6	-53	3	6	7	-49	8	10	11	-56	0	3	4	-53	3	6	8	5	4	3	4
40,000	-56.5	-56	-2	1	3	-55	2	5	7	-50	4	9	11	-56	1	4	6	-55	2	6	8	5	5	5	4
30,000	-44.5	-53	-8	-5	-4	-48	-4	-1	1	-40	4	7	8	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-23	-2	1	3	-16	7	9	11	-19	2	5	7	-21	-0	4	4	6	5	3	5
10,000	-4.6	-16	-10	-4	-4	-8	-3	0	2	1	5	7	9	-5	-0	3	5	-4	-2	2	4	6	5	3	5
MOSCOW TO NEW YORK																									4037 N.MI.
55,000	-56.5	-57	-1	3	4	-51	5	8	10	-48	6	10	12	-55	2	5	6	-53	4	7	9	5	4	3	4
40,000	-56.5	-56	1	5	7	-51	5	9	12	-44	7	10	12	-53	4	7	10	-52	4	8	10	6	6	5	6
30,000	-44.5	-52	-8	-5	-3	-49	-4	-2	0	-42	2	5	6	-46	-2	1	3	-48	-3	1	3	4	4	4	4
20,000	-21.2	-31	-10	-6	-4	-27	-6	-2	-0	-17	5	7	9	-23	-1	3	5	-24	-3	1	3	6	6	4	4
10,000	-4.6	-17	-12	-8	-6	-12	-7	-4	-2	-2	3	5	6	-8	-3	1	3	-9	-5	-1	1	6	5	3	5
MOSCOW TO OSLO																									878 N.MI.
55,000	-56.5	-57	-1	2	4	-52	4	7	8	-46	10	12	13	-55	1	4	5	-53	4	7	9	5	4	4	4
40,000	-56.5	-59	-3	1	2	-54	3	7	8	-46	7	11	12	-55	2	5	7	-54	2	7	9	5	6	5	4
30,000	-44.5	-56	-8	-6	-5	-50	-5	-2	-0	-42	3	6	8	-46	-2	1	3	-48	-3	1	3	4	4	4	4
20,000	-21.2	-31	-10	-6	-4	-26	-4	-1	1	-16	5	8	9	-22	-0	4	4	-23	-2	2	4	6	4	4	6
10,000	-4.6	-16	-12	-8	-5	-10	-6	-2	0	-1	4	6	7	-7	-2	2	3	-8	-4	-0	2	6	6	3	5
MOSCOW TO PARIS																									1324 N.MI.
55,000	-56.5	-56	0	3	5	-53	3	4	7	-49	8	10	11	-57	-0	3	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-56	-2	1	3	-55	2	4	8	-50	4	9	11	-56	1	4	6	-55	2	6	8	5	6	5	4
30,000	-44.5	-52	-8	-5	-4	-48	-4	-1	0	-41	4	7	8	-45	-0	3	4	-47	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-4	-1	-24	-2	1	3	-16	7	9	10	-19	2	5	7	-22	-0	3	5	4	5	3	5
10,000	-4.6	-16	-9	-5	-3	-9	-3	0	2	1	5	7	8	-5	-0	3	5	-6	-2	2	4	6	5	3	5
MOSCOW TO PRAGUE																									900 N.MI.
55,000	-56.5	-56	1	4	4	-53	4	6	7	-48	6	11	12	-56	0	3	4	-53	3	7	8	5	4	3	4
40,000	-56.5	-56	-2	1	3	-55	2	5	7	-50	6	9	11	-55	1	4	6	-55	2	6	8	5	5	5	5
30,000	-44.5	-53	-8	-6	-4	-49	-4	-1	1	-41	4	7	8	-45	-0	2	4	-47	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-24	-2	1	3	-16	7	9	10	-20	1	5	7	-22	-1	3	5	4	5	4	5
10,000	-4.6	-15	-10	-6	-4	-8	-3	0	2	0	5	7	8	-5	-1	3	5	-7	-2	1	3	6	5	3	5
MOSCOW TO ROME																									1244 N.MI.
55,000	-56.5	-56	1	4	6	-54	3	5	7	-51	4	8	9	-57	-1	2	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	3	-56	1	4	6	-50	4	9	11	-56	1	4	6	-55	2	5	7	5	5	4	4
30,000	-44.5	-52	-7	-5	-3	-48	-3	-0	1	-39	5	8	9	-44	1	3	5	-46	-1	3	5	5	4	4	4
20,000	-21.2	-26	-7	-3	-1	-22	-1	2	4	-13	8	10	11	-18	3	6	8	-20	1	4	6	5	5	3	5
10,000	-4.6	-13	-8	-5	-3	-6	-2	1	1	2	7	9	10	-3	1	4	6	-5	-1	3	5	5	5	3	5
MOSCOW TO SHANNON																									1602 N.MI.
55,000	-56.5	-57	-1	3	4	-53	4	6	8	-47	9	11	12	-56	0	3	5	-53	3	7	8	5	4	3	4
40,000	-56.5	-59	-2	2	4	-54	3	7	9	-50	7	10	12	-55	1	5	7	-54	2	7	9	6	4	5	5
30,000	-44.5	-52	-8	-5	-4	-46	-4	-1	0	-41	1	4	7	-45	-1	2	3	-47	-2	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-24	-3	0	2	-15	6	8	10	-20	1	5	6	-22	-1	3	5	4	5	4	5
10,000	-4.6	-13	-9	-5	-3	-9	-4	-1	1	-0	4	6	8	-6	-1	2	4	-7	-2	1	3	6	5	3	5
MOSCOW TO STOCKHOLM																									658 N.MI.
55,000	-56.5	-57	-1	3	4	-52	4	7	8	-46	10	12	13	-55	2	4	5	-51	4	7	9	5	4	3	4
40,000	-56.5	-59	-3	0	2	-54	3	7	9	-49	7	10	12	-55	2	5	7	-54	2	6	9	5	6	5	5
30,000	-44.5	-54	-9	-7	-5	-49	-5	-2	-0	-41	3	6	8	-46	-2	1	3	-48	-3	1	3	5	4	5	4
20,000	-21.2	-31	-10	-6	-4	-25	-4	-0	2	-15	6	8	10	-22	-0	4	6	-23	-2	2	4	6	6	4	6
10,000	-4.6	-17	-12	-8	-6	-10	-5	-2	1	-1	4	6	7	-7	-2	2	3	-9	-4	-0	2	6	5	3	5
MOSCOW TO TEHERAN																									1565 N.MI.
55,000	-56.5	-56	0	1	5	-54	2	4	6	-56	3	5	6	-57	-1	2	3	-56	1	4	5	5	5	3	4
40,000	-56.5	-57	-1	2	4	-55	2	5	7	-48	9	11	13	-55	2	4	6	-54	3	7	9	4	5	4	4
30,000	-44.5	-51	-7	-4	-3	-45	-0	2	4	-35	10	13	14	-45	2	4	6	-45	1	6	8	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-20	2	5	7	-10	12	14	15	-18	3	6	8	-18	3	7	9	5	5	3	5
10,000	-4.6	-12	-7	-3	-1	-4	1	4	6	5	10	12	13	-2	3	6	8	-3	1	5	8	6	5	3	5
MOSCOW TO VIENNA																									897 N.MI.
55,000	-56.5	-56	1	4	6	-53	3	6	7	-48	8	10	11	-56	0	3	4	-55	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-55	2	5	7	-50	6	9	11	-55	1	4	6	-55	2	6	8	5	5	4	4
30,000	-44.5	-53	-8	-6	-4	-48	-4	-1	1	-40	4	7	9	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-23	-2	1	1	-16	7	9	11	-19	2	5	7	-21	-0	4	6	6	5	3	5
10,000	-4.6	-16	-10	-6	-4	-8	-3	1	2	1	5	7	8	-5	-0	3	5	-7	-2	2	4	6	5	3	5
MOSCOW TO WARSAW																									621 N.MI.
55,000	-56.5	-56	1	4	6	-53	4	6	8	-47	9	11	12	-56	1	3	5	-53	4	7	9	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	2	6	7	-50	7	10	11	-55	2	5	6	-55	2	6	8	5	5	4	5
30,000	-44.5	-53	-9	-6	-5	-48	-4	-1	1	-40	4	7	8	-45	-0	2	4	-47	-2	2	4	4	5	4	4
20,000	-21.2	-30	-8	-4	-2	-24	-3	1	3	-14	7	9	10	-20	1	5	7	-22	-1	3	5	6	6	4	6
10,000	-4.6	-15	-11	-7	-5	-8	-4	0	2	0	5	7	8	-6	-1	2	4	-7	-3	1	3	6	6	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
MOSCOW TO ZURICH																									1177 N.MI.
53,000	-56.5	-56	1	4	6	-53	3	6	7	-49	8	10	11	-57	-0	2	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-55	1	5	7	-51	6	9	11	-56	1	4	6	-55	2	5	8	5	5	5	5
30,000	-44.5	-52	-8	-5	-4	-48	-4	-1	1	-40	4	7	8	-44	0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-29	-7	-4	-2	-23	-2	1	3	-14	7	9	11	-19	2	5	7	-21	-0	4	6	6	5	3	5
10,000	- 4.6	-14	-9	-5	-3	-8	-3	0	2	1	6	8	9	-5	0	3	5	-6	-2	2	4	6	5	3	5
MOUNT ISA TO SYDNEY																									1010 N.MI.
53,000	-56.5	-72	-16	-13	-12	-70	-15	-11	-9	-67	-10	-8	-7	-66	-10	-7	-6	-69	-12	-9	-8	4	4	3	4
40,000	-56.5	-53	3	6	7	-54	2	4	6	-54	3	5	6	-54	3	6	7	-54	3	5	6	3	3	3	4
30,000	-44.5	-35	10	12	13	-38	6	8	9	-40	4	7	8	-40	5	7	8	-38	4	9	10	3	3	3	3
20,000	-21.2	-9	12	14	15	-12	9	11	12	-16	5	7	8	-14	7	9	10	-13	8	11	12	2	3	3	3
10,000	- 4.6	7	12	14	15	3	7	9	10	-0	4	6	8	2	7	9	10	3	8	10	12	3	2	3	3
MUKDEN TO NANKING																									620 N.MI.
53,000	-56.5	-56	1	4	6	-59	-2	1	2	-61	-4	-1	1	-60	-4	-1	1	-59	-2	2	6	5	4	5	5
40,000	-56.5	-52	5	8	9	-53	4	7	9	-47	10	13	14	-52	5	8	10	-51	4	9	11	4	5	6	5
30,000	-44.5	-44	-1	2	3	-42	2	4	7	-27	17	20	22	-37	7	10	12	-38	6	11	14	4	5	6	4
20,000	-21.2	-25	-5	-1	0	-18	3	6	8	-4	17	19	20	-15	6	9	11	-16	5	10	12	5	5	3	5
10,000	- 4.6	-12	-8	-5	-3	-4	0	3	5	10	15	17	18	-1	4	7	9	-2	3	7	10	5	5	3	4
MUKDEN TO PEIPING																									367 N.MI.
53,000	-56.5	-51	5	9	11	-55	2	4	6	-57	-0	3	5	-57	-1	3	4	-55	1	6	8	5	6	5	5
40,000	-56.5	-53	4	7	8	-52	4	8	10	-46	11	14	16	-51	5	8	10	-51	6	10	12	5	5	5	5
30,000	-44.5	-50	-5	-2	-0	-46	-1	2	4	-28	17	20	22	-40	4	7	9	-41	4	9	13	4	5	5	5
20,000	-21.2	-30	-9	-6	-4	-22	-0	3	5	-4	17	19	20	-18	3	7	9	-19	3	8	11	5	5	3	5
10,000	- 4.6	-17	-12	-9	-7	-7	-2	1	3	10	14	17	18	-3	1	5	8	-4	0	5	8	5	5	3	5
MUKDEN TO SEOUL																									296 N.MI.
53,000	-56.5	-57	5	6	10	-56	0	3	5	-58	-2	2	4	-58	-1	2	3	-56	0	5	7	5	4	5	5
40,000	-56.5	-52	5	8	9	-53	4	7	9	-46	10	13	15	-51	5	8	10	-51	6	10	12	5	5	5	5
30,000	-44.5	-49	-4	-1	1	-44	0	4	6	-26	17	20	22	-39	5	9	13	-40	5	10	13	5	5	5	5
20,000	-21.2	-30	-9	-5	-3	-21	0	4	6	-4	17	19	20	-17	4	8	10	-18	3	8	11	5	5	3	5
10,000	- 4.6	-16	-12	-8	-6	-6	-2	2	4	13	15	17	18	-3	2	5	7	-4	1	4	8	5	5	3	5
MUKDEN TO SHANGHAI																									637 N.MI.
53,000	-56.5	-56	0	4	6	-59	-3	0	2	-61	-5	-1	1	-61	-4	-1	1	-59	-3	1	3	5	4	5	5
40,000	-56.5	-52	5	6	9	-53	4	7	9	-47	10	13	14	-52	5	8	10	-51	6	9	11	4	5	4	4
30,000	-44.5	-45	-1	2	4	-42	3	6	8	-27	17	20	22	-37	8	11	12	-38	7	12	14	4	5	4	4
20,000	-21.2	-25	-4	-1	1	-18	3	7	8	-4	17	19	20	-15	6	10	11	-16	6	10	12	5	5	3	5
10,000	- 4.6	-12	-7	-4	-3	-4	1	4	5	11	15	17	18	-0	4	7	9	-1	3	7	10	5	5	3	4
MUKDEN TO TAIPEI																									1306 N.MI.
53,000	-56.5	-61	-4	-1	1	-63	-6	-4	-2	-64	-8	-4	-2	-63	-7	-3	-2	-63	-6	-2	-0	5	4	5	5
40,000	-56.5	-52	5	8	9	-53	4	7	8	-63	9	12	13	-52	5	8	9	-51	4	9	11	4	5	4	4
30,000	-44.5	-41	3	4	7	-39	5	8	10	-27	17	20	21	-36	10	13	14	-36	9	13	15	4	4	4	4
20,000	-21.2	-21	0	3	5	-15	7	9	11	-4	17	19	20	-12	9	12	13	-13	6	12	14	4	4	3	4
10,000	- 4.6	-4	-4	-1	1	-1	3	6	8	11	15	17	18	2	7	9	11	1	5	9	11	4	4	2	4
MUKDEN TO TOKYO																									867 N.MI.
53,000	-56.5	-53	4	7	9	-57	-0	3	4	-59	-3	1	3	-59	-2	1	3	-57	-0	4	6	5	5	5	5
40,000	-56.5	-51	6	9	11	-53	3	7	9	-47	9	12	14	-51	5	8	10	-51	6	10	11	5	5	4	5
30,000	-44.5	-47	-2	1	2	-43	2	5	7	-28	17	20	22	-37	7	10	12	-39	4	11	14	5	5	5	5
20,000	-21.2	-28	-7	-4	-2	-19	2	5	7	-4	17	19	20	-15	6	9	11	-17	4	9	12	5	5	3	5
10,000	- 4.6	-15	-11	-7	-5	-5	-1	3	4	10	15	17	18	-1	3	7	8	-3	2	6	9	5	5	3	5
MUNICH TO NEW YORK																									3501 N.MI.
53,000	-56.5	-57	-0	3	4	-56	1	5	7	-52	4	7	8	-57	-1	2	4	-55	1	5	6	4	4	4	4
40,000	-56.5	-55	1	5	8	-56	2	7	9	-52	5	6	10	-56	2	6	8	-56	3	6	8	4	7	5	5
30,000	-44.5	-49	-5	-2	-0	-47	-3	-0	1	-40	4	7	8	-44	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-23	-2	1	3	-16	7	10	11	-19	3	6	8	-21	1	5	7	4	5	4	5
10,000	- 4.6	-12	-8	-3	-1	-4	-3	0	2	1	4	8	9	-3	1	5	6	-6	-1	3	5	4	5	3	5
MUNICH TO OSLO																									707 N.MI.
53,000	-56.5	-57	-0	3	5	-53	3	4	7	-49	8	10	11	-57	-0	2	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	2	4	-56	2	6	8	-50	6	10	12	-56	0	4	6	-55	2	6	8	4	6	5	5
30,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-0	-41	3	6	7	-45	-0	2	4	-47	-2	1	3	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-26	-3	0	2	-15	4	6	10	-20	2	5	7	-22	-1	3	5	4	5	3	5
10,000	- 4.6	-13	-8	-5	-2	-8	-3	-3	1	0	5	7	8	-5	-0	3	5	-4	-2	2	4	6	5	3	5
MUNICH TO PARIS																									371 N.MI.
53,000	-56.5	-56	0	3	5	-56	2	5	6	-52	5	7	8	-58	-2	1	2	-55	1	4	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-0	4	6	-52	4	8	9	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-47	-1	-0	1	-40	5	7	8	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-13	8	10	11	-17	4	7	8	-20	2	5	7	6	4	3	4
10,000	- 4.6	-10	-5	-2	0	-6	-1	2	3	2	7	9	10	-2	3	6	7	-4	1	4	6	5	4	3	4
MUNICH TO PRAGUE																									156 N.MI.
53,000	-56.5	-56	1	4	6	-56	2	5	6	-51	5	8	9	-58	-1	1	2	-55	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	0	4	5	-52	5	8	10	-56	0	3	5	-56	1	5	7	5	5	5	4
30,000	-44.5	-51	-7	-4	-2	-48	-3	-1	1	-40	4	7	8	-44	1	4	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	3	-13	8	10	11	-18	3	6	8	-20	1	5	6	6	4	3	5
10,000	- 4.6	-12	-7	-3	-1	-6	-2	1	3	2	7	9	10	-2	2	5	7	-5	-0	4	6	6	4	3	5
MUNICH TO ROME																									382 N.MI.
53,000	-56.5	-56	0	4	6	-55	1	4	5	-56	2	4	6	-59	-3	-0	1	-56	0	3	4	5	4	3	4
40,000	-56.5	-58	-1	2	4	-57	-1	3	4	-52	4	7	9	-56	0	3	4	-56	1	4	6	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-47	-2	0	2	-39	6	8	10	-43	2	5	6	-45	-0	4	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-21	0	3	4	-12	9	11	12	-16	5	7	9	-19	2	6	8	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-5	-0	3	4	4	9	11	12	-1	4	6	8	-3	2	5	7	5	4	3	4
MUNICH TO SHANNON																									851 N.MI.
53,000	-56.5	-57	-1	3	5	-54	3	5	7	-51	6	8	10	-58	-1	1	3	-55	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	5	-56	1	5	8	-51	5	9	11	-56	0	4	5	-55	1	6	8	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-41	4	7	8	-44	1	3	5	-45	-1	3	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-14	7	9	11	-18	3	6	8	-20	1	5	6	6	5	3	5
10,000	- 4.6	-10	-5	-1	0	-6	-1	1	3	2	6	8	10	-2	2	5	7	-4	0	4	6	5	4	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
MUNICH TO TEHERAN																									1894 N.MI.
55,000	-56.5	-57	-0	3	4	-56	1	3	4	-57	-1	2	3	-59	-3	-0	1	-57	-1	2	3	4	3	3	4
40,000	-56.5	-57	-0	3	4	-56	1	4	6	-48	8	11	52	-56	0	3	4	-54	2	6	8	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-46	-1	1	3	-35	10	12	13	-42	2	5	6	-43	1	5	7	4	4	4	4
20,000	-21.2	-26	-4	-1	0	-20	3	4	6	-10	12	14	15	-16	5	8	9	-18	3	7	9	5	4	4	4
10,000	- 4.6	-11	-6	-2	-0	-3	1	4	6	6	10	13	54	-0	5	7	9	-2	3	6	8	5	4	3	4
MUNICH TO TEL AVIV-JAFFA																									1429 N.MI.
55,000	-56.5	-58	-1	2	3	-57	-0	2	3	-60	-4	-2	-0	-61	-4	-2	-3	-59	-2	0	2	4	3	3	3
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-49	8	10	11	-56	0	3	4	-55	2	5	7	5	5	3	3
30,000	-44.5	-49	-5	-3	-1	-46	-1	1	2	-35	10	12	13	-42	3	5	6	-43	2	6	8	5	5	3	3
20,000	-21.2	-24	-3	-0	2	-20	1	4	6	-9	12	14	15	-15	6	8	9	-17	4	8	9	3	3	3	3
10,000	- 4.6	-9	-4	-1	0	-3	1	4	6	8	11	13	14	1	6	8	9	-1	3	7	9	4	4	3	3
MUNICH TO VIENNA																									195 N.MI.
55,000	-56.5	-56	1	4	6	-54	2	5	6	-52	5	7	8	-58	-2	1	2	-55	2	5	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	0	4	6	-51	5	8	10	-56	0	3	4	-56	1	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-2	-48	-3	-1	1	-40	5	7	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	4	-15	8	10	51	-18	4	7	8	-20	1	5	7	5	4	3	4
10,000	- 4.6	-11	-7	-3	-1	-6	-2	1	3	2	7	9	10	-2	2	5	7	-4	0	4	6	5	4	3	4
MUNICH TO WARSAW																									450 N.MI.
55,000	-56.5	-56	1	4	6	-54	3	5	7	-50	6	9	10	-58	-1	1	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-56	-2	2	4	-56	1	4	6	-51	5	9	50	-56	0	3	5	-55	1	5	7	5	5	5	4
30,000	-44.5	-52	-7	-4	-3	-48	-4	-1	0	-40	4	7	8	-44	1	3	5	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-14	7	10	11	-18	3	6	8	-21	1	4	6	6	5	3	5
10,000	- 4.6	-13	-8	-4	-2	-7	-3	1	2	2	6	8	9	-3	1	4	6	-5	-1	3	5	6	5	3	5
MUNICH TO ZAGREB																									230 N.MI.
55,000	-56.5	-56	1	4	6	-55	2	5	6	-52	4	6	8	-58	-2	0	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-0	3	5	-52	5	8	9	-56	0	3	4	-56	1	4	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-47	-3	-0	1	-39	5	8	9	-43	1	4	6	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	4	-15	8	10	12	-17	4	7	8	-20	2	5	7	5	4	3	4
10,000	- 4.6	-11	-6	-3	-1	-6	-1	2	3	3	7	10	11	-2	3	6	7	-4	1	4	6	5	4	3	4
MUNICH TO ZURICH																									133 N.MI.
55,000	-56.5	-56	1	4	6	-54	2	5	6	-52	6	7	8	-58	-2	3	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-0	3	5	-52	4	7	9	-56	0	3	5	-56	1	4	6	5	6	5	4
30,000	-44.5	-51	-6	-3	-2	-48	-3	-0	1	-40	5	7	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-5	-2	0	-22	-1	2	4	-15	8	10	11	-17	4	7	8	-20	2	5	7	5	4	3	4
10,000	- 4.6	-10	-6	-2	-0	-6	-1	2	3	3	7	10	11	-2	3	6	7	-4	1	4	6	5	4	3	4
NAGPUR TO NEW DELHI																									461 N.MI.
55,000	-56.5	-72	-15	-13	-12	-69	-12	-9	-8	-74	-18	-15	-13	-75	-17	-14	-12	-12	-16	-12	-10	4	4	5	4
40,000	-56.5	-55	2	5	7	-55	3	7	8	-43	8	12	14	-54	3	6	8	-53	4	8	11	5	5	5	5
30,000	-44.5	-38	7	10	12	-36	9	12	14	-27	18	20	22	-33	12	14	56	-33	11	15	17	5	5	4	4
20,000	-21.2	-12	9	11	12	-10	12	14	16	-2	19	21	22	-7	14	16	57	-8	13	16	58	3	4	3	3
10,000	- 4.6	4	8	10	11	9	15	15	17	15	18	19	20	8	12	14	15	8	15	15	17	3	3	2	3
NAIROBI TO PARIS																									3505 N.MI.
55,000	-56.5	-69	-12	-10	-9	-68	-11	-9	-8	-69	-55	-11	-10	-70	-13	-11	-10	-69	-12	-50	-9	3	3	3	3
40,000	-56.5	-55	2	4	5	-54	2	5	6	-51	6	7	8	-54	2	4	5	-54	3	5	6	4	4	3	3
30,000	-44.5	-41	4	5	6	-37	7	9	10	-32	12	14	15	-36	9	10	11	-37	8	10	12	3	3	3	3
20,000	-21.2	-16	7	9	10	-12	9	11	12	-7	15	16	17	-10	11	13	13	-11	11	13	14	3	3	2	2
10,000	- 4.6	2	7	9	10	4	9	11	12	10	14	16	17	6	11	12	53	6	10	12	14	3	3	2	2
NAIROBI TO ROME																									2905 N.MI.
55,000	-56.5	-71	-14	-12	-11	-70	-13	-11	-10	-72	-16	-14	-13	-72	-16	-14	-53	-71	-55	-12	-11	3	3	3	3
40,000	-56.5	-54	2	4	5	-54	3	5	7	-51	6	7	8	-54	3	4	5	-53	3	5	7	3	4	2	2
30,000	-44.5	-39	5	7	7	-36	9	10	11	-31	14	15	16	-35	10	13	12	-35	9	12	13	2	2	2	2
20,000	-21.2	-12	9	11	12	-10	11	13	14	-5	16	17	18	-9	12	14	14	-9	12	14	15	3	2	2	2
10,000	- 4.6	4	8	10	11	6	11	12	13	11	15	17	17	8	12	13	14	7	12	14	15	3	2	2	2
NAIROBI TO SALISBURY																									1055 N.MI.
55,000	-56.5	-77	-21	-18	-17	-16	-20	-17	-16	-12	-16	-14	-13	-75	-18	-16	-55	-75	-59	-16	-15	3	4	3	3
40,000	-56.5	-52	5	6	1	-52	5	7	8	-52	5	6	7	-52	4	6	7	-52	5	7	8	3	3	2	2
30,000	-44.5	-30	15	16	16	-31	14	15	16	-33	12	13	14	-32	13	14	55	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	17	17	18	-5	16	17	18	-6	15	17	17	-6	15	16	17	-5	16	17	17	1	2	2	2
10,000	- 4.6	10	14	15	16	9	14	15	15	7	12	13	14	10	14	15	16	9	13	15	15	5	2	2	2
NAIROBI TO TANANARIVE																									1221 N.MI.
55,000	-56.5	-71	-21	-18	-11	-16	-20	-17	-16	-72	-15	-13	-12	-75	-18	-16	-15	-75	-19	-16	-14	4	4	3	3
40,000	-56.5	-52	4	6	7	-52	5	7	8	-52	5	6	7	-52	4	6	7	-52	4	6	7	3	3	2	2
30,000	-44.5	-30	15	16	17	-31	14	15	16	-32	12	14	14	-32	12	14	15	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	11	17	18	-5	16	17	17	-6	15	11	17	-6	15	16	17	-6	16	17	17	1	1	2	2
10,000	- 4.6	10	14	15	15	10	14	15	16	7	12	13	14	9	14	15	16	9	14	15	15	1	1	2	2
NAIROBI TO TEHERAN																									2362 N.MI.
55,000	-56.5	-74	-17	-15	-14	-13	-17	-15	-13	-74	-18	-16	-15	-75	-18	-56	-15	-74	-17	-15	-14	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	4	6	8	-50	7	8	9	-53	3	5	6	-52	4	6	7	3	3	2	2
30,000	-44.5	-36	8	10	11	-34	11	13	14	-28	16	18	18	-33	12	13	14	-33	12	14	15	3	2	2	2
20,000	-21.2	-10	12	13	14	-8	13	15	15	-4	17	19	20	-7	14	15	16	-7	14	16	17	2	2	2	2
10,000	- 4.6	6	11	12	13	8	13	14	15	14	18	20	20	9	13	15	15	9	14	16	17	2	2	2	2
NAIROBI TO TEL AVIV-JAFFA																									2002 N.MI.
55,000	-56.5	-74	-18	-16	-15	-74	-17	-15	-14	-75	-19	-11	-16	-75	-19	-17	-16	-75	-58	-16	-15	3	3	3	3
40,000	-56.5	-54	3	4	5	-53	4	6	7	-51	6	7	8	-53	4	5	6	-52	4	6	7	2	3	2	2
30,000	-44.5	-36	8	10	11	-33	12	13	14	-29	16	17	18	-32	12	14	14	-33	12	54	15	2	2	2	2
20,000	-21.2	-9	12	14	15	-8	14	15	16	-4	17	18	19	-7	14	15	16	-7	14	56	17	2	2	2	2
10,000	- 4.6	7	12	13	14	8	13	14	15	13	17	18	19	9	14	15	16	9	14	16	17	2	2	2	2
NAIROBI TO TRIPOLI																									2444 N.MI.
55,000	-56.5	-74	-17	-16	-15	-73	-16	-15	-14	-75	-18	-16	-15	-75	-18	-16	-15	-74	-18	-15	-54	3	3	3	3
40,000	-56.5	-54	3	5	5	-53	4	6	7	-51	5	7	7	-53	4	5	6	-53	4	5	6	3	3	2	2
30,000	-44.5	-37	7	9	9	-33	11	13	13	-30	15	16	57	-33	12	13	14	-33	51	53	14	2	2	2	2
20,000	-21.2	-10	12	13	14	-8	13	15	15	-5	16	18	18	-7	14	55	15	-7	14	15	16	2	2	2	1
10,000	- 4.6	6	11	13	13	8	13	14	15	12	16	17	18	9	14	55	15	9	13	15	56	2	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
NAIROBI TO TUNIS																									2750 N.MI.
51,000	-56.5	-72	-16	-14	-13	-71	-15	-13	-12	-74	-17	-15	-14	-73	-17	-15	-14	-73	-16	-14	-13	3	3	3	3
40,000	-56.5	-54	3	4	5	-55	3	6	7	-51	6	7	8	-55	3	5	6	-55	4	5	6	3	3	2	2
30,000	-44.5	-38	6	8	8	-34	10	12	12	-30	14	16	16	-34	11	12	13	-34	10	13	14	2	2	2	2
20,000	-21.2	-11	10	12	13	-9	12	14	14	-5	16	17	18	-8	11	14	15	-8	13	15	16	2	2	2	2
10,000	- 4.6	5	10	12	12	7	12	13	14	11	16	17	18	8	13	14	15	8	13	15	16	2	2	2	2
NAIROBI TO VIENNA																									3151 N.MI.
51,000	-56.5	-69	-12	-10	-9	-68	-11	-9	-8	-70	-13	-12	-11	-70	-14	-12	-11	-69	-13	-11	-9	3	3	3	3
40,000	-56.5	-55	2	4	5	-54	2	5	6	-50	6	8	9	-54	3	4	5	-53	3	6	7	3	4	2	3
30,000	-44.5	-41	4	5	6	-37	7	9	10	-31	13	15	16	-36	9	11	12	-36	8	11	12	2	2	2	2
20,000	-21.2	-14	7	9	10	-12	10	11	12	-6	15	16	17	-10	11	13	14	-10	11	13	14	3	3	2	2
10,000	- 4.6	2	6	8	9	4	9	11	12	10	15	16	17	6	11	13	13	6	10	12	14	3	3	2	2
NAIROBI TO ZURICH																									3282 N.MI.
51,000	-56.5	-69	-12	-10	-9	-68	-12	-9	-8	-70	-14	-12	-11	-70	-14	-12	-11	-69	-13	-11	-9	3	3	3	3
40,000	-56.5	-55	2	4	5	-54	2	5	6	-51	6	7	8	-54	3	4	5	-53	3	5	6	3	4	2	3
30,000	-44.5	-41	4	5	6	-37	7	9	10	-32	13	15	15	-16	9	11	12	-36	8	11	12	2	2	2	2
20,000	-21.2	-14	7	9	10	-11	10	11	12	-6	15	16	17	-10	12	13	14	-10	11	13	14	3	3	2	2
10,000	- 4.6	2	7	9	10	5	9	11	12	10	15	16	17	7	11	13	13	6	10	13	14	3	3	2	2
NANDI TO SYDNEY																									1710 N.MI.
51,000	-56.5	-72	-15	-13	-12	-71	-14	-11	-10	-67	-10	-8	-7	-66	-10	-8	-6	-69	-12	-10	-8	3	4	3	3
40,000	-56.5	-54	3	5	6	-54	3	5	6	-54	3	5	6	-54	2	5	6	-54	3	5	6	3	3	3	4
30,000	-44.5	-35	9	11	13	-37	7	9	11	-40	5	7	9	-39	5	7	8	-38	7	9	11	3	3	4	3
20,000	-21.2	-9	12	14	15	-12	10	11	12	-15	6	8	9	-16	8	9	10	-12	9	11	12	2	3	3	3
10,000	- 4.6	7	12	14	14	5	9	11	12	1	5	7	8	1	7	9	10	4	9	11	12	2	2	3	3
NANDI TO TAHITI																									1881 N.MI.
51,000	-56.5	-78	-22	-20	-19	-77	-20	-18	-16	-73	-16	-14	-11	-72	-15	-13	-12	-75	-18	-16	-14	2	4	3	3
40,000	-56.5	-54	1	5	6	-55	1	5	6	-54	2	4	5	-54	2	4	5	-54	3	4	5	3	3	3	3
30,000	-44.5	-32	11	14	15	-33	12	11	14	-35	10	12	11	-35	10	12	11	-33	11	13	14	3	3	3	3
20,000	-21.2	-6	15	16	17	-7	14	15	16	-8	13	14	15	-8	13	14	15	-7	14	15	16	2	2	2	2
10,000	- 4.6	10	14	15	16	10	14	15	16	7	11	13	13	7	12	13	14	8	13	14	15	2	2	2	2
NAPLES TO ROME																									96 N.MI.
51,000	-56.5	-57	-0	3	5	-56	0	3	4	-56	-2	0	2	-60	-4	-2	-0	-58	-1	1	3	5	4	3	3
40,000	-56.5	-57	-1	1	5	-54	-1	2	4	-53	6	6	10	-56	0	2	4	-55	1	5	6	5	5	4	4
30,000	-44.5	-49	-5	-2	-1	-46	-2	1	2	-37	7	10	11	-42	1	5	7	-44	1	4	6	4	4	3	4
20,000	-21.2	-26	-3	[illegible]	2	-20	2	4	5	-11	11	12	11	-15	6	8	9	-17	4	7	9	5	4	3	3
10,000	- 4.6	-7	-1	0	2	-1	2	4	4	6	11	11	14	0	5	7	8	-1	4	7	9	4	4	3	1
NASSAU TO NEW ORLEANS																									727 N.MI.
51,000	-56.5	-72	-16	-14	-11	-75	-13	-11	-10	-70	-14	-11	-12	-75	-18	-16	-15	-72	-15	-13	-12	3	3	2	3
40,000	-56.5	-57	-0	2	3	-56	0	2	1	-56	0	1	2	-55	2	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-19	6	7	8	-18	7	8	9	-31	11	12	13	-36	10	12	11	-36	9	10	11	2	2	1	3
20,000	-21.2	-11	10	12	13	-10	11	11	14	-7	15	16	16	-7	14	15	16	-9	12	14	15	3	3	1	2
10,000	- 4.6	4	9	11	12	8	10	12	11	9	13	14	14	8	11	14	15	7	11	13	13	3	3	1	2
NASSAU TO NEW YORK																									953 N.MI.
51,000	-56.5	-68	-11	-9	-8	-65	-9	-7	-5	-67	-10	-9	-8	-70	-13	-11	-10	-68	-11	-8	-7	3	3	3	4
40,000	-56.5	-57	-1	3	3	-57	-1	2	1	-56	1	2	3	-55	1	3	4	-56	0	2	4	4	4	2	3
30,000	-44.5	-42	1	5	8	-41	4	6	7	-34	10	12	12	-37	8	10	11	-38	6	8	10	3	3	2	3
20,000	-21.2	-15	6	9	10	-14	8	10	11	-8	14	15	16	-10	11	13	14	-11	10	12	13	3	3	2	3
10,000	- 4.6	-0	4	7	8	1	6	8	10	7	12	13	14	5	10	12	13	3	8	10	11	4	3	2	3
NATAL TO NEW ORLEANS																									3809 N.MI.
51,000	-56.5	-76	-20	-18	-17	-76	-19	-18	-17	-72	-16	-14	-11	-76	-20	-18	-17	-75	-19	-16	-15	3	3	2	3
40,000	-56.5	-55	2	4	5	-54	1	5	6	-55	1	1	3	-54	3	4	5	-54	2	4	5	3	3	2	2
30,000	-44.5	-35	10	11	12	-33	12	11	14	-31	12	13	11	-32	13	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-7	14	15	16	-7	15	16	17	-7	14	15	16	-6	15	16	17	-7	15	16	16	2	2	1	2
10,000	- 4.6	8	12	14	14	8	13	14	15	9	13	14	15	9	14	15	16	9	13	14	15	2	2	1	2
NATAL TO NEW YORK																									3507 N.MI.
51,000	-56.5	-74	-17	-15	-14	-73	-16	-14	-13	-70	-14	-12	-11	-74	-17	-15	-14	-73	-16	-14	-13	3	3	3	3
40,000	-56.5	-55	1	4	5	-55	1	4	5	-55	2	3	4	-54	2	4	5	-55	2	3	4	3	4	2	2
30,000	-44.5	-37	8	9	10	-35	9	11	12	-34	11	12	11	-33	11	13	14	-15	10	12	11	2	2	2	2
20,000	-21.2	-10	11	13	14	-9	12	14	15	-7	14	15	16	-7	14	15	16	-8	13	14	15	2	2	2	2
10,000	- 4.6	5	10	12	11	8	10	12	13	8	11	14	14	8	13	14	15	7	11	13	14	3	2	2	2
NATAL TO PANAMA																									2788 N.MI.
51,000	-56.5	-78	-22	-20	-19	-78	-21	-19	-18	-73	-16	-14	-13	-77	-20	-18	-18	-76	-20	-17	-16	3	3	3	3
40,000	-56.5	-54	2	4	5	-52	5	7	8	-54	2	4	5	-54	3	4	5	-53	3	5	7	3	3	2	2
30,000	-44.5	-32	12	13	14	-30	15	16	17	-32	13	14	15	-30	14	16	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	17	18	19	-4	17	18	19	-7	14	15	16	-6	16	17	17	-5	16	17	16	2	2	1	2
10,000	- 4.6	10	14	16	16	10	15	16	17	9	13	15	15	10	15	16	17	10	14	16	16	2	2	2	2
NATAL TO PARIS																									3838 N.MI.
51,000	-56.5	-70	-13	-11	-10	-69	-12	-10	-9	-68	-12	-10	-9	-71	-14	-12	-11	-69	-13	-11	-9	4	3	3	3
40,000	-56.5	-56	0	3	5	-55	1	4	5	-53	3	5	6	-54	2	4	5	-55	2	4	5	4	4	3	3
30,000	-44.5	-40	5	8	7	-37	8	9	10	-34	10	12	12	-35	9	11	12	-37	8	10	11	3	2	2	3
20,000	-21.2	-11	8	10	11	-11	10	11	12	-8	13	15	15	-9	12	14	14	-10	11	13	14	3	3	2	2
10,000	- 4.6	1	8	10	11	4	9	11	12	9	13	15	15	7	11	13	13	6	10	12	13	3	3	2	2
NATAL TO QUITO																									2612 N.MI.
51,000	-56.5	-78	-22	-20	-18	-77	-21	-19	-18	-72	-16	-14	-12	-76	-19	-17	-16	-76	-19	-17	-15	3	3	3	3
40,000	-56.5	-54	3	4	5	-52	5	7	8	-54	3	4	5	-54	3	4	5	-53	3	6	7	3	3	2	2
30,000	-44.5	-32	11	14	15	-30	15	16	17	-32	13	14	15	-30	14	16	17	-31	14	15	16	2	2	2	2
20,000	-21.2	-4	17	18	19	-4	17	18	19	-8	14	15	15	-6	16	17	17	-5	16	17	18	2	2	2	2
10,000	- 4.6	10	15	16	16	10	15	16	17	9	13	14	15	10	15	16	17	10	14	16	16	2	2	2	2
NATAL TO RECIFE																									134 N.MI.
51,000	-56.5	-78	-21	-19	-17	-78	-21	-19	-18	-71	-15	-12	-11	-75	-18	-16	-15	-75	-19	-16	-14	4	3	3	3
40,000	-56.5	-54	2	4	5	-52	4	7	8	-53	4	5	6	-55	3	5	6	-53	3	6	7	3	4	2	2
30,000	-44.5	-32	11	14	15	-30	14	16	17	-32	13	14	15	-31	14	15	16	-31	13	15	16	2	2	2	2
20,000	-21.2	-5	16	18	18	-4	17	18	19	-7	14	16	16	-6	16	17	17	-5	16	17	18	2	2	2	2
10,000	- 4.6	10	14	16	16	10	14	16	16	8	12	14	14	10	15	16	17	9	14	15	16	2	2	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50*	050	075	085	APRIL 50	050	075	085	JULY 50	050	075	085	OCTOBER 50	050	075	085	ANNUAL 50	050	075	085	STANDARD DEVIATION JAN	APR	JUL	OCT
NATAL TO RIO DE JANEIRO																									1115 N.MI.
51,000	-56.5	-77	-20	-17	-16	-76	-19	-17	-16	-69	-13	-10	-9	-71	-15	-13	-12	-73	-17	-13	-12	4	5	4	5
40,000	-56.5	-53	4	6	7	-52	4	7	8	-52	4	6	7	-53	3	5	6	-53	4	6	7	3	4	3	3
30,000	-44.5	-32	13	14	15	-32	13	15	16	-33	12	13	14	-32	12	14	15	-32	12	14	15	2	3	3	3
20,000	-21.2	-5	16	18	19	-6	15	17	17	-9	11	14	15	-7	14	16	17	-7	15	16	17	2	2	2	2
10,000	-4.6	9	14	15	16	9	14	16	16	6	11	12	13	9	14	15	16	9	13	15	16	2	2	2	2
NATAL TO ROME																									3876 N.MI.
51,000	-56.5	-71	-15	-12	-11	-70	-14	-12	-11	-71	-14	-12	-11	-72	-16	-14	-13	-71	-15	-12	-11	3	3	3	3
40,000	-56.5	-55	1	4	5	-55	2	5	6	-51	4	5	6	-54	3	4	5	-54	2	4	5	4	4	2	2
30,000	-44.5	-19	5	7	8	-36	9	10	11	-34	11	12	13	-35	10	11	12	-36	9	11	12	2	2	2	2
20,000	-21.2	-12	9	10	11	-10	11	12	13	-7	14	15	16	-8	13	14	15	-10	12	13	14	2	2	2	2
10,000	-4.6	4	9	10	11	6	10	12	11	10	15	16	17	7	12	13	14	7	11	11	14	2	2	2	2
NATAL TO SAL ISLAND																									1543 N.MI.
51,000	-56.5	-78	-21	-19	-18	-74	-21	-19	-18	-74	-17	-15	-14	-77	-21	-19	-18	-77	-20	-18	-16	3	3	1	3
40,000	-56.5	-54	2	4	5	-51	1	5	7	-54	3	4	5	-53	4	5	6	-54	3	4	5	3	4	2	2
30,000	-44.5	-31	11	12	11	-31	14	15	16	-32	12	11	14	-31	11	15	15	-32	13	14	15	2	2	2	2
20,000	-21.2	-7	14	15	16	-6	15	16	17	-6	15	16	17	-6	16	17	17	-6	15	16	17	2	2	1	2
10,000	-4.6	9	14	14	15	9	13	15	15	9	14	15	15	10	15	16	16	9	14	15	16	1	2	1	2
NATAL TO SANTA MARIA																									2654 N.MI.
51,000	-56.5	-74	-17	-15	-14	-73	-17	-15	-14	-72	-15	-13	-12	-74	-18	-16	-15	-71	-17	-14	-13	3	3	3	3
40,000	-56.5	-55	1	1	5	-55	1	4	5	-54	3	4	5	-54	4	4	5	-55	2	4	4	3	4	2	2
30,000	-44.5	-32	8	9	10	-34	10	12	12	-34	11	12	11	-33	11	11	14	-34	10	12	13	2	2	2	2
20,000	-21.2	-10	11	11	14	-9	12	14	15	-7	14	15	16	-7	14	15	16	-8	13	14	15	2	2	2	2
10,000	-4.6	6	11	12	13	6	11	12	13	9	13	14	15	9	13	14	15	8	12	11	14	2	2	2	2
NATAL TO SAO PAULO																									1249 N.MS.
51,000	-56.5	-76	-20	-17	-16	-76	-19	-17	-16	-69	-11	-10	-9	-71	-15	-13	-11	-73	-17	-13	-11	4	5	4	5
40,000	-56.5	-53	4	6	7	-52	4	7	8	-52	4	6	7	-51	3	5	6	-51	4	6	7	3	4	3	3
30,000	-44.5	-32	12	14	15	-32	11	14	16	-31	11	11	14	-32	12	14	15	-32	12	14	15	3	3	3	1
20,000	-21.2	-5	16	14	19	-6	15	16	17	-9	12	14	15	-7	14	16	17	-7	14	16	17	2	2	2	2
10,000	-4.6	9	14	15	16	9	14	15	16	6	11	12	11	9	14	15	16	9	11	15	16	2	2	2	2
NATAL TO ZURICH																									3969 N.MI.
51,000	-56.5	-70	-13	-11	-10	-69	-12	-10	-9	-69	-12	-10	-9	-71	-14	-12	-11	-70	-13	-11	-10	4	5	3	1
40,000	-56.5	-56	1	5	5	-55	1	4	6	-55	1	5	6	-56	2	4	5	-55	2	4	5	4	4	2	3
30,000	-44.5	-40	5	6	7	-37	8	9	10	-34	10	12	13	-35	9	11	12	-37	8	10	11	3	2	2	3
20,000	-21.2	-11	8	10	11	-11	10	12	12	-8	13	15	15	-9	12	14	14	-10	11	13	14	3	2	2	2
10,000	-4.6	5	8	10	11	5	9	11	12	9	14	15	16	7	11	13	11	6	10	12	14	3	3	2	2
NEW DELHI TO ROME																									5186 N.MI.
51,000	-56.5	-59	-3	-0	1	-56	-2	1	2	-61	-6	-4	-2	-62	-5	-3	-1	-61	-4	-1	0	4	4	4	4
40,000	-56.5	-56	1	4	5	-55	1	5	6	-47	9	12	13	-55	1	4	5	-54	3	7	9	5	5	4	4
30,000	-44.5	-48	-3	-1	1	-44	1	4	5	-31	11	16	17	-40	4	7	8	-41	4	8	11	4	4	4	4
20,000	-21.2	-23	-2	1	1	-17	4	7	9	-6	15	17	18	-14	7	9	11	-15	6	10	12	4	4	3	4
10,000	-4.6	-7	-3	1	2	-0	4	7	9	10	15	17	18	2	7	10	11	1	6	10	12	5	4	3	4
NEW DELHI TO SINGAPORE																									2261 N.MI.
51,000	-56.5	-76	-21	-19	-16	-74	-16	-16	-14	-77	-20	-18	-16	-78	-21	-19	-18	-77	-20	-17	-16	3	3	4	3
40,000	-56.5	-56	1	1	4	-52	4	6	8	-52	5	7	8	-54	2	4	6	-53	1	6	7	3	3	3	1
30,000	-44.5	-34	11	11	14	-32	13	15	14	-29	16	17	18	-32	11	14	15	-31	13	15	16	3	3	2	1
20,000	-21.2	-8	14	15	16	-6	15	17	17	-4	17	18	19	-6	15	17	17	-6	15	17	18	2	2	2	2
10,000	-4.6	6	12	14	14	10	14	16	16	11	15	16	17	9	13	14	15	9	14	15	15	2	2	1	2
NEW DELHI TO TEHERAN																									1374 N.MI.
51,000	-56.5	-66	-8	-5	-4	-61	-6	-4	-2	-70	-13	-10	-9	-66	-9	-6	-5	-66	-9	-6	-4	4	4	4	4
40,000	-56.5	-54	2	5	7	-54	2	6	8	-47	10	11	14	-54	2	5	7	-52	4	8	10	5	5	4	4
30,000	-44.5	-43	1	4	6	-40	4	7	9	-27	18	20	22	-37	7	10	11	-37	8	12	15	4	5	4	4
20,000	-21.2	-19	2	5	6	-11	8	11	12	-2	19	21	22	-12	10	12	13	-12	10	14	16	4	4	3	1
10,000	-4.6	-1	2	5	6	4	9	11	13	15	20	21	22	6	10	13	14	6	10	14	16	4	4	3	3
NEW DELHI TO TEL AVIV-JAFFA																									2181 N.MI.
51,000	-56.5	-65	-9	-6	-5	-64	-7	-5	-3	-71	-14	-12	-10	-67	-10	-8	-6	-67	-10	-7	-5	4	4	4	4
40,000	-56.5	-54	2	5	7	-54	2	6	7	-47	10	13	14	-55	2	5	6	-52	4	8	10	4	5	4	4
30,000	-44.5	-43	1	4	6	-40	4	7	9	-26	18	20	22	-37	8	10	11	-37	8	12	14	4	4	3	4
20,000	-21.2	-16	1	5	7	-13	8	10	11	-2	19	21	22	-11	10	12	13	-11	10	14	16	4	4	3	3
10,000	-4.6	-2	3	5	7	5	9	11	13	15	20	21	22	6	11	11	14	6	11	14	16	4	3	2	3
NEW DELHI TO TRIPOLI																									3262 N.MI.
51,000	-56.5	-63	-6	-4	-2	-61	-5	-2	-1	-69	-11	-10	-9	-65	-8	-6	-4	-64	-8	-5	-3	4	3	4	4
40,000	-56.5	-55	2	5	6	-55	1	5	7	-47	10	12	13	-55	1	4	5	-53	3	7	9	5	5	3	4
30,000	-44.5	-45	-1	2	3	-42	2	5	6	-28	16	19	20	-19	6	8	9	-39	6	10	13	4	4	3	3
20,000	-21.2	-20	1	4	5	-15	6	8	10	-4	17	19	20	-12	9	11	12	-13	8	12	14	4	4	3	3
10,000	-4.6	-4	1	1	5	2	7	9	11	13	17	19	20	5	10	12	13	4	9	12	14	4	4	1	3
NEW DELHI TO TUNIS																									3345 N.MI.
51,000	-56.5	-61	-4	-1	0	-60	-3	-1	1	-66	-9	-7	-6	-63	-7	-4	-1	-62	-6	-3	-1	4	4	4	4
40,000	-56.5	-55	1	4	6	-55	1	5	6	-47	9	12	13	-56	1	4	5	-53	3	7	9	5	5	4	4
30,000	-44.5	-47	-2	0	2	-41	2	4	6	-30	15	17	18	-40	5	7	9	-40	5	9	11	4	4	4	4
20,000	-21.2	-22	-0	2	4	-16	5	8	9	-5	16	18	19	-13	8	10	11	-14	7	11	13	4	4	3	3
10,000	-4.6	-6	-1	2	3	1	6	8	10	11	16	18	19	4	8	11	12	1	7	11	13	4	4	3	3
NEW ORLEANS TO PANAMA																									1381 N.MI.
51,000	-56.5	-76	-19	-17	-16	-74	-18	-16	-15	-72	-16	-15	-14	-77	-20	-18	-17	-75	-18	-16	-15	3	3	2	3
40,000	-56.5	-55	1	3	4	-54	2	4	5	-56	1	2	2	-54	2	4	4	-55	2	3	4	2	2	2	2
30,000	-44.5	-36	8	10	10	-15	10	11	12	-13	12	13	13	-33	12	11	14	-14	10	12	13	2	2	1	2
20,000	-21.2	-8	13	14	15	-7	14	15	16	-7	15	15	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	-4.6	7	12	13	14	8	12	14	15	9	14	15	15	9	14	15	16	8	13	14	15	2	2	1	2
NEW ORLEANS TO PORT-AU-PRINCE																									1178 N.MI.
51,000	-56.5	-74	-18	-16	-15	-72	-16	-14	-13	-71	-15	-11	-11	-76	-19	-17	-16	-73	-17	-15	-14	3	3	2	3
40,000	-56.5	-56	1	2	1	-55	1	3	4	-56	0	1	2	-55	2	3	4	-55	1	3	3	3	3	1	2
30,000	-44.5	-18	7	8	9	-36	8	10	10	-31	11	12	13	-15	11	12	11	-35	9	11	12	2	2	1	2
20,000	-21.2	-10	11	11	14	-9	12	14	15	-7	15	15	16	-7	15	16	16	-8	13	15	15	2	2	1	2
10,000	-4.6	6	10	12	13	7	11	11	14	9	13	14	14	9	13	14	15	7	12	13	14	2	3	1	2

*0--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
NEW ORLEANS TO PORT OF SPAIN																									1976 N.MI.
55,000	-56.5	-75	-19	-17	-16	-74	-18	-16	-15	-72	-15	-14	-13	-76	-20	-18	-17	-74	-18	-16	-15	3	3	2	3
40,000	-56.5	-55	2	3	4	-55	2	4	4	-56	1	2	2	-54	2	4	4	-55	2	3	4	3	2	2	2
30,000	-44.5	-36	8	10	10	-35	10	11	12	-31	11	12	13	-33	12	13	14	-14	10	12	13	2	2	1	2
20,000	-21.2	-9	12	14	15	-8	13	15	15	-7	15	15	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	- 4.6	7	11	13	13	7	12	13	14	9	14	14	15	9	13	14	15	8	13	14	14	2	2	1	2
NEW ORLEANS TO QUITO																									1915 N.MI.
55,000	-56.5	-76	-20	-18	-17	-75	-19	-17	-16	-73	-16	-15	-14	-77	-21	-19	-18	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-55	2	3	4	-53	3	5	5	-56	1	2	3	-54	2	4	4	-55	2	4	5	2	2	2	2
30,000	-44.5	-15	10	11	11	-33	11	12	13	-33	12	13	14	-32	12	14	14	-33	11	13	13	2	2	2	2
20,000	-21.2	-7	14	15	16	-6	15	16	17	-7	15	15	16	-6	15	16	17	-7	15	16	16	2	2	1	2
10,000	- 4.6	8	12	14	14	9	13	15	15	9	14	15	15	10	14	15	16	9	13	15	15	2	2	1	3
NEW ORLEANS TO RIO DE JANEIRO																									4153 N.MI.
55,000	-56.5	-77	-20	-18	-17	-75	-19	-17	-16	-71	-15	-13	-12	-75	-18	-16	-15	-75	-18	-16	-14	3	3	3	3
40,000	-56.5	-54	3	4	5	-53	4	6	7	-54	2	4	4	-54	3	4	5	-54	3	5	6	3	3	2	2
30,000	-44.5	-34	11	12	13	-32	12	14	15	-33	12	13	14	-32	13	14	15	-13	12	14	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-6	15	17	17	-8	13	15	15	-6	15	16	17	-6	15	16	17	2	2	2	2
10,000	- 4.6	9	13	15	15	9	14	15	16	8	13	14	14	10	14	15	16	9	13	15	15	2	2	2	2
NEW ORLEANS TO SAN JUAN																									1478 N.MI.
55,000	-56.5	-74	-17	-16	-15	-72	-16	-14	-13	-71	-14	-13	-13	-75	-19	-17	-16	-73	-17	-15	-14	3	3	2	3
40,000	-56.5	-56	1	3	4	-55	1	3	4	-56	0	3	2	-55	2	3	4	-55	1	3	3	3	3	2	2
30,000	-44.5	-38	7	8	9	-36	8	10	10	-33	11	12	13	-34	13	12	11	-35	9	11	11	2	2	1	2
20,000	-21.2	-10	11	11	14	-9	12	14	15	-7	15	15	16	-7	15	16	16	-8	11	15	15	2	2	[illegible]	2
10,000	- 4.6	6	10	12	13	6	11	13	11	9	13	14	14	8	13	14	15	7	12	13	13	2	2	3	2
NEW ORLEANS TO SANTA MARIA																									3215 N.MI.
51,000	-56.5	-64	-8	-6	-4	-62	-5	-4	-2	-64	-8	-6	-5	-66	-10	-7	-6	-64	-8	-5	-3	4	4	3	4
40,000	-56.5	-58	-2	2	3	-58	-2	1	1	-56	1	3	4	-56	1	1	4	-57	-0	2	3	5	5	3	4
30,000	-44.5	-44	1	3	4	-43	2	4	5	-35	9	11	12	-38	7	9	10	-40	5	7	9	3	3	3	3
20,000	-21.2	-17	4	7	8	-16	5	8	9	-9	13	14	15	-13	10	12	13	-13	8	10	12	4	4	2	1
10,000	- 4.6	-2	3	6	7	-3	4	7	8	7	11	13	13	4	9	11	12	2	7	9	10	4	4	2	3
NEW ORLEANS TO SANTIAGO																									3955 N.MI.
51,000	-56.5	-75	-19	-17	-15	-74	-16	-16	-15	-71	-14	-12	-11	-73	-17	-15	-13	-73	-17	-14	-13	3	3	3	3
40,000	-56.5	-54	3	5	6	-53	3	5	6	-54	2	4	5	-54	2	4	5	-54	3	5	6	3	3	2	2
30,000	-44.5	-34	10	12	13	-34	11	12	13	-34	10	12	13	-33	12	11	14	-34	11	13	13	2	2	2	2
20,000	-21.2	-7	14	16	17	-7	14	16	16	-9	12	13	14	-7	14	16	16	-8	14	15	16	2	2	2	2
10,000	- 4.6	8	13	14	15	8	13	14	15	7	12	13	13	8	13	14	15	8	12	14	15	2	2	2	2
NEW ORLEANS TO SAO PAULO																									4065 N.MI.
55,000	-56.5	-77	-20	-18	-17	-75	-19	-17	-16	-71	-15	-11	-12	-75	-18	-16	-15	-75	-18	-16	-14	3	1	3	3
40,000	-56.5	-54	3	4	5	-53	4	6	7	-54	2	4	4	-54	1	4	5	-54	3	5	6	3	3	2	2
30,000	-44.5	-34	11	12	13	-32	12	14	15	-33	12	13	14	-12	13	14	15	-33	12	13	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-6	15	17	17	-8	13	14	15	-6	15	16	17	-7	15	16	17	2	2	2	2
10,000	- 4.6	9	13	13	13	9	14	15	16	8	13	14	14	9	14	15	16	9	13	15	13	2	2	2	2
NEW ORLEANS TO VANCOUVER																									1899 N.MI.
55,000	-56.5	-62	-5	-3	-1	-60	-3	-1	1	-63	-6	-4	-3	-65	-8	-6	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-56	0	4	6	-57	-1	2	4	-54	2	4	5	-56	1	1	5	-56	0	3	4	6	5	3	6
30,000	-44.5	-47	-3	-0	1	-45	-0	2	3	-16	9	10	11	-41	4	6	7	-42	2	5	7	3	3	2	3
20,000	-21.2	-22	-1	3	5	-18	3	6	7	-9	12	14	15	-14	7	10	11	-16	5	8	10	6	4	2	6
10,000	- 4.6	-7	-2	2	4	-1	4	7	9	9	14	14	16	2	7	10	12	1	6	9	11	6	5	3	5
NEW YORK TO OSLO																									3186 N.MI.
55,000	-56.5	-57	-0	3	5	-52	5	8	9	-50	7	9	11	-55	1	4	6	-53	3	6	8	5	4	4	4
40,000	-56.5	-54	2	6	9	-52	5	9	12	-50	7	10	12	-53	4	8	10	-52	4	8	10	6	7	5	6
30,000	-44.5	-51	-6	-3	-2	-48	-4	-1	0	-42	2	5	7	-46	-1	2	1	-47	-2	1	3	4	4	4	4
20,000	-21.2	-30	-7	-5	-2	-26	-5	-2	0	-16	5	8	9	-22	-0	3	5	-24	-2	2	4	6	5	4	6
10,000	- 4.6	-16	-11	-7	-5	-11	-7	-3	-1	-3	4	6	7	-7	-2	2	4	-9	-4	-0	2	6	5	3	5
NEW YORK TO PANAMA CITY																									1916 N.MI.
55,000	-56.5	-72	-16	-14	-13	-70	-14	-12	-11	-73	-13	-12	-11	-74	-17	-15	-14	-73	-15	-13	-12	3	3	2	3
40,000	-56.5	-56	1	1	4	-55	1	3	4	-56	1	2	3	-55	2	4	4	-55	1	3	4	3	3	2	2
30,000	-44.5	-38	6	8	9	-37	8	9	10	-34	11	12	13	-34	10	12	13	-36	9	10	11	2	2	2	2
20,000	-21.2	-11	10	12	13	-10	11	13	14	-7	14	15	16	-8	13	15	16	-9	12	14	14	3	3	1	2
10,000	- 4.6	4	8	10	11	5	9	11	12	8	13	14	14	7	12	13	14	6	11	12	13	3	3	1	2
NEW YORK TO PARIS																									3166 N.MI.
55,000	-56.5	-57	-1	2	4	-54	2	5	6	-53	1	6	7	-57	-1	2	4	-55	1	4	6	4	4	4	4
40,000	-56.5	-55	1	5	8	-55	2	6	9	-52	4	7	9	-54	2	6	8	-54	2	6	8	6	7	5	5
30,000	-44.5	-49	-4	-1	0	-47	-2	0	2	-40	5	7	9	-43	1	4	5	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-0	2	-23	-2	2	4	-11	8	10	12	-18	3	7	8	-20	1	5	7	6	5	4	5
10,000	- 4.6	-12	-7	-3	-1	-7	-3	1	2	1	6	8	9	-5	1	5	7	-5	-1	1	5	6	5	3	5
NEW YORK TO PORT OF SPAIN																									1919 N.MI.
55,000	-56.5	-72	-15	-13	-12	-70	-14	-12	-11	-69	-12	-11	-10	-71	-16	-14	-11	-71	-14	-12	-11	3	3	2	3
40,000	-56.5	-56	1	3	5	-56	0	3	4	-56	1	2	3	-55	2	4	4	-56	1	3	4	4	3	2	2
30,000	-44.5	-39	6	8	9	-37	7	9	10	-34	10	12	12	-34	10	12	11	-36	8	10	11	3	2	2	2
20,000	-21.2	-12	10	11	12	-11	11	12	13	-7	14	15	16	-8	11	15	15	-9	12	13	14	3	3	2	2
10,000	- 4.6	3	8	10	11	4	9	11	12	8	12	13	14	7	11	13	14	6	10	12	13	3	3	2	2
NEW YORK TO PRAGUE																									3536 N.MI.
55,000	-56.5	-57	-0	3	4	-53	3	6	7	-51	5	8	9	-57	-0	3	4	-54	2	5	7	4	4	4	4
40,000	-56.5	-55	1	6	8	-54	3	7	10	-51	5	9	10	-54	2	6	8	-54	3	7	9	6	7	5	6
30,000	-44.5	-50	-5	-2	-1	-47	-1	-0	1	-41	4	6	8	-44	0	1	3	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	1	-24	-3	1	1	-14	7	9	11	-19	2	6	7	-21	-0	4	6	6	5	4	5
10,000	- 4.6	-13	-8	-4	-2	-8	-4	-0	1	1	5	7	9	-4	0	4	6	-6	-2	2	4	6	5	3	5
NEW YORK TO PRESTWICK																									2785 N.MI.
51,000	-56.5	-57	-0	3	4	-51	4	6	8	-52	5	7	9	-56	0	3	5	-54	2	5	7	4	4	4	4
40,000	-56.5	-54	2	7	9	-51	3	8	10	-51	5	9	10	-53	3	7	9	-53	4	7	9	7	7	5	6
30,000	-44.5	-49	-5	-2	-0	-47	-1	-0	1	-41	4	6	8	-44	0	3	5	-46	-1	3	5	4	4	4	4
20,000	-21.2	-28	-7	-2	0	-25	-3	0	2	-15	7	9	11	-20	2	5	7	-22	-0	4	6	7	5	4	5
10,000	- 4.6	-14	-9	-5	-3	-9	-5	-1	1	0	5	7	8	-5	-0	1	5	-7	-2	1	4	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50*	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
NEW YORK TO QUITO																									2459 N.MI.
55,000	-56.5	-74	-17	-15	-14	-72	-16	-14	-13	-71	-14	-13	-12	-74	-18	-16	-15	-73	-16	-14	-13	5	5	2	5
40,000	-56.5	-55	1	3	4	-55	2	4	5	-56	1	2	3	-55	2	4	4	-55	1	3	4	5	5	2	2
30,000	-44.5	-37	7	9	10	-35	9	11	11	-33	11	12	13	-34	11	12	13	-35	10	11	12	2	2	2	2
20,000	-21.2	-10	11	13	14	-9	12	14	15	-7	14	15	16	-7	14	15	16	-8	13	14	15	5	2	1	2
10,000	- 4.6	5	10	11	12	6	10	12	13	8	13	14	15	8	13	14	15	7	11	13	13	5	5	1	2
NEW YORK TO RIO DE JANEIRO																									6171 N.MI.
55,000	-56.5	-75	-18	-16	-15	-74	-17	-15	-14	-70	-13	-11	-10	-73	-17	-15	-14	-73	-16	-14	-12	5	5	5	5
40,000	-56.5	-54	2	4	5	-54	2	5	6	-54	2	4	4	-54	2	4	5	-54	2	5	6	5	5	2	2
30,000	-44.5	-35	9	11	12	-34	11	12	13	-33	11	13	13	-33	12	13	14	-34	11	12	13	2	2	2	2
20,000	-21.2	-8	13	15	16	-8	13	15	16	-8	13	15	15	-7	14	16	16	-8	13	15	16	2	2	2	2
10,000	- 4.6	7	11	13	14	7	12	13	14	8	12	13	14	8	13	14	15	7	12	14	14	2	2	2	2
NEW YORK TO ROME																									3719 N.MI.
55,000	-56.5	-57	-1	2	4	-55	2	4	6	-55	2	5	6	-58	-2	1	3	-56	0	3	5	4	4	4	4
40,000	-56.5	-56	0	4	7	-56	1	5	7	-53	3	7	8	-55	2	5	7	-55	1	5	7	6	6	5	5
30,000	-44.5	-48	-4	-1	0	-47	-2	1	2	-39	5	8	9	-43	2	4	6	-44	0	4	6	6	4	4	4
20,000	-21.2	-25	-3	0	3	-22	-1	3	4	-13	9	11	12	-17	4	7	9	-19	2	6	8	6	5	3	5
10,000	- 4.6	-10	-6	-1	1	-6	-1	2	4	3	7	9	10	-2	3	6	7	-4	1	4	6	6	5	3	5
NEW YORK TO ST. CROIX																									1652 N.MI.
55,000	-56.5	-70	-14	-11	-10	-68	-12	-10	-9	-68	-11	-10	-9	-71	-15	-13	-11	-69	-13	-11	-10	5	5	2	5
40,000	-56.5	-56	0	3	4	-57	-0	2	3	-56	1	2	3	-55	2	3	4	-56	1	3	4	4	4	2	3
30,000	-44.5	-40	4	6	7	-39	6	7	8	-34	10	11	12	-35	9	11	12	-37	7	9	10	5	5	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-7	14	15	16	-9	12	14	15	-10	11	13	14	5	5	2	2
10,000	- 4.6	2	6	9	10	3	8	10	11	8	12	13	14	6	11	12	13	5	9	11	12	5	5	2	2
NEW YORK TO SAN JUAN																									1391 N.MI.
55,000	-56.5	-70	-13	-11	-10	-68	-11	-9	-8	-68	-11	-10	-9	-71	-15	-12	-11	-69	-13	-11	-10	5	5	2	4
40,000	-56.5	-56	0	3	4	-57	-0	2	3	-56	1	2	3	-55	2	3	4	-56	0	3	4	4	4	2	3
30,000	-44.5	-40	4	6	7	-39	5	7	8	-34	10	11	12	-35	9	11	12	-37	7	9	10	5	5	2	3
20,000	-21.2	-13	8	10	11	-12	9	13	12	-8	14	15	16	-9	12	14	15	-10	11	13	14	5	5	2	2
10,000	- 4.6	2	4	9	10	3	7	9	10	7	12	13	14	6	11	12	13	4	9	13	12	5	5	2	2
NEW YORK TO SANTA MARIA																									2255 N.MI.
55,000	-56.5	-61	-4	-2	-0	-58	-2	1	2	-61	-4	-2	-1	-62	-6	-3	-1	-60	-4	-1	0	4	4	3	4
40,000	-56.5	-58	-1	3	5	-57	-1	3	5	-55	3	4	5	-56	1	4	5	-56	0	3	4	6	5	3	4
30,000	-44.5	-44	-1	1	3	-45	-0	2	3	-37	8	10	11	-40	5	7	9	-42	3	6	7	4	3	3	4
20,000	-21.2	-20	1	4	6	-19	2	5	7	-10	11	13	14	-13	8	11	12	-16	6	9	10	5	4	3	4
10,000	- 4.6	-6	-1	3	4	-3	1	4	6	5	10	12	12	2	6	9	10	-0	4	7	9	5	4	2	4
NEW YORK TO SANTIAGO																									4651 N.MI.
55,000	-56.5	-74	-17	-15	-14	-73	-16	-14	-13	-69	-13	-11	-10	-72	-16	-13	-12	-72	-15	-13	-12	5	5	3	5
40,000	-56.5	-54	2	4	6	-54	3	5	6	-54	2	4	5	-54	2	4	5	-54	2	5	6	5	5	2	5
30,000	-44.5	-35	9	11	12	-34	10	12	13	-34	10	12	12	-33	11	13	14	-34	10	12	13	2	2	2	2
20,000	-21.2	-8	13	15	16	-8	13	15	16	-9	12	13	14	-7	14	15	16	-8	13	14	15	2	2	2	2
10,000	- 4.6	7	11	13	14	7	11	13	14	7	11	13	13	8	12	13	14	7	12	13	14	2	2	2	2
NEW YORK TO SANTO DOMINGO																									1350 N.MI.
55,000	-56.5	-70	-13	-11	-10	-68	-11	-9	-8	-68	-11	-10	-9	-71	-15	-13	-11	-69	-13	-11	-10	5	5	2	4
40,000	-56.5	-56	0	3	4	-57	-0	2	3	-56	0	2	2	-55	2	3	4	-56	0	3	4	4	5	2	3
30,000	-44.5	-40	4	6	7	-39	6	7	8	-34	10	12	12	-35	9	11	12	-37	7	9	10	5	5	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-7	14	15	16	-9	12	14	15	-10	11	13	14	5	5	2	2
10,000	- 4.6	2	4	9	10	3	7	10	11	8	12	13	14	6	11	12	13	5	9	11	12	5	5	1	2
NEW YORK TO SAO PAULO																									6162 N.MI.
55,000	-56.5	-75	-18	-16	-15	-74	-17	-15	-14	-70	-13	-11	-10	-73	-17	-15	-14	-73	-16	-14	-12	5	5	3	3
40,000	-56.5	-54	2	4	5	-54	3	5	6	-54	2	4	4	-54	2	4	5	-54	2	5	6	5	5	2	2
30,000	-44.5	-35	9	11	12	-34	11	12	13	-33	11	13	13	-33	12	13	14	-34	13	13	13	2	2	2	2
20,000	-21.2	-8	13	15	16	-8	13	15	16	-8	13	15	15	-7	14	16	16	-8	14	15	16	2	2	2	2
10,000	- 4.6	7	11	13	14	7	12	13	14	8	12	13	14	8	13	14	15	7	12	14	14	2	2	2	2
NEW YORK TO SHANNON																									2670 N.MI.
51,000	-56.5	-57	-0	2	4	-54	3	5	7	-53	4	6	8	-57	-0	3	4	-55	1	4	6	4	4	4	4
40,000	-56.5	-56	2	4	6	-54	3	7	9	-52	4	8	9	-54	3	6	8	-54	3	7	9	6	7	5	5
30,000	-44.5	-49	-4	-1	0	-47	-3	0	1	-40	4	7	9	-44	1	4	5	-45	-0	3	5	6	4	4	4
20,000	-21.2	-27	-5	-1	1	-26	-2	1	3	-16	7	10	11	-19	3	6	8	-21	1	5	7	7	5	4	5
10,000	- 4.6	-13	-8	-4	-2	-8	-3	-0	2	1	6	8	9	-4	1	4	6	-6	-1	2	4	7	5	5	5
NEW YORK TO STOCKHOLM																									5596 N.MI.
55,000	-56.5	-57	-1	3	4	-51	5	8	9	-49	7	10	11	-55	2	4	6	-53	3	6	8	5	4	5	4
40,000	-56.5	-55	2	6	8	-51	5	9	12	-50	7	10	12	-53	4	7	10	-52	4	8	10	6	7	5	6
30,000	-44.5	-51	-7	-4	-2	-49	-4	-1	0	-42	2	5	6	-46	-1	2	3	-47	-3	1	3	6	4	4	4
20,000	-21.2	-31	-9	-5	-3	-27	-6	-2	0	-16	5	8	9	-22	-1	3	5	-24	-3	2	4	6	5	4	6
10,000	- 4.6	-16	-11	-7	-5	-11	-7	-3	-1	-1	3	6	7	-7	-2	1	3	-9	-4	-0	2	6	5	3	5
NEW YORK TO TEL AVIV-JAFFA																									4921 N.MI.
55,000	-56.5	-57	-1	2	4	-55	1	4	5	-56	1	3	5	-59	-2	1	2	-57	-0	3	4	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	1	5	7	-51	5	8	10	-55	1	5	6	-56	2	6	8	6	6	4	5
30,000	-44.5	-49	-4	-2	-0	-46	-2	1	2	-38	6	9	10	-43	2	4	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-25	-4	-0	2	-22	-0	3	4	-12	9	11	13	-17	4	7	9	-19	2	6	8	6	5	3	4
10,000	- 4.6	-10	-6	-2	0	-6	-1	2	4	3	8	10	11	-2	3	6	8	-4	1	5	6	6	5	3	4
NEW YORK TO TOKYO																									5869 N.MI.
55,000	-56.5	-54	2	6	8	-50	7	9	11	-50	7	9	10	-53	3	6	7	-52	5	8	9	5	4	3	3
40,000	-56.5	-55	2	6	8	-51	6	9	11	-49	7	11	13	-52	5	8	9	-52	5	9	11	6	5	5	5
30,000	-44.5	-54	-9	-7	-5	-57	-6	-3	-2	-40	4	7	8	-48	-3	-1	1	-48	-4	0	3	6	4	4	4
20,000	-21.2	-34	-13	-9	-7	-29	-8	-4	-2	-15	6	9	10	-25	-4	-1	1	-26	-5	0	3	6	5	4	5
10,000	- 4.6	-21	-16	-12	-10	-15	-10	-6	-5	-0	5	7	8	-10	-6	-2	-0	-17	-7	-2	0	6	5	4	5
NEW YORK TO TRINIDAD																									1919 N.MI.
55,000	-56.5	-72	-15	-13	-12	-70	-14	-12	-13	-69	-12	-11	-10	-73	-16	-14	-13	-71	-14	-12	-11	5	5	2	5
40,000	-56.5	-56	1	3	5	-56	0	3	4	-56	1	2	3	-55	2	4	4	-56	1	3	4	4	5	2	2
30,000	-44.5	-39	6	8	9	-37	7	9	10	-34	10	12	12	-34	10	12	13	-36	8	10	11	5	2	2	2
20,000	-21.2	-12	10	11	12	-11	11	12	13	-7	14	15	16	-8	13	15	15	-9	12	13	14	3	3	2	2
10,000	- 4.6	5	8	10	11	4	9	11	12	8	12	13	14	7	11	13	14	6	10	12	13	5	5	2	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
NEW YORK TO VANCOUVER																									2120 N.MI.
55,000	-56.5	-58	-1	2	4	-55	1	4	5	-57	-0	2	4	-59	-3	-0	1	-57	-1	2	4	5	4	4	4
40,000	-56.5	-55	1	5	8	-55	1	5	7	-53	3	6	7	-55	1	4	6	-55	2	5	6	6	6	4	5
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	0	-38	6	8	10	-44	1	3	5	-45	-1	3	5	4	3	3	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	2	3	-12	9	12	13	-18	3	6	8	-20	1	5	7	6	5	3	5
10,000	- 4.6	-15	-10	-5	-2	-7	-3	1	3	5	9	12	13	-2	2	6	8	-5	-0	4	6	7	5	4	6
NEW YORK TO VIENNA																									3672 N.MI.
55,000	-56.5	-57	-0	3	4	-53	3	6	7	-52	5	7	9	-57	-0	3	4	-55	2	5	7	4	4	4	4
40,000	-56.5	-55	1	5	8	-54	2	7	9	-52	5	8	10	-54	2	6	8	-54	3	7	9	6	6	5	5
30,000	-44.5	-49	-5	-2	-1	-47	-3	-0	1	-41	4	7	8	-44	1	3	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	1	-24	-2	1	3	-14	7	10	11	-19	2	6	8	-21	0	4	6	6	5	4	5
10,000	- 4.6	-13	-8	-4	-2	-8	-3	-0	2	1	5	8	9	-4	1	4	6	-6	-1	2	4	6	5	3	5
NEW YORK TO WARSAW																									3695 N.MI.
55,000	-56.5	-57	-0	3	4	-53	4	7	8	-50	6	9	10	-56	1	3	5	-54	3	6	7	5	4	4	4
40,000	-56.5	-55	1	6	8	-53	4	8	11	-51	6	9	11	-54	3	6	8	-53	3	7	10	6	7	5	6
30,000	-44.5	-50	-6	-3	-1	-48	-3	-1	1	-41	3	6	7	-45	-0	3	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-29	-8	-3	-1	-25	-4	-0	2	-15	6	9	10	-20	1	5	7	-22	-1	3	5	4	5	4	5
10,000	- 4.6	-14	-10	-5	-3	-10	-5	-2	0	-0	4	7	8	-5	-1	3	5	-7	-3	1	3	6	5	3	5
NEW YORK TO WINNIPEG																									1129 N.MI.
55,000	-56.5	-58	-1	2	3	-56	1	3	5	-57	-1	2	3	-59	-3	-0	1	-58	-1	2	3	4	6	6	4
40,000	-56.5	-55	2	6	8	-55	2	6	8	-53	3	6	7	-55	2	5	7	-54	2	5	7	6	6	4	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	0	-38	7	9	10	-43	1	4	5	-45	-0	3	5	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-12	10	12	13	-18	3	7	9	-20	1	5	7	6	5	3	5
10,000	- 4.6	-15	-11	-6	-4	-8	-3	0	2	4	8	11	12	-2	3	7	9	-5	-1	3	6	7	6	4	6
NEW YORK TO ZURICH																									3405 N.MI.
55,000	-56.5	-57	-1	2	4	-54	2	5	6	-53	3	6	8	-57	-1	2	4	-55	1	4	6	4	4	4	6
40,000	-56.5	-55	1	5	6	-55	2	6	9	-52	4	8	9	-54	2	6	8	-54	2	6	8	6	6	5	5
30,000	-44.5	-49	-4	-1	0	-47	-2	0	2	-40	5	7	9	-43	1	4	5	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	2	-23	-2	2	4	-13	8	10	11	-18	3	7	8	-20	1	5	7	6	5	4	5
10,000	- 4.6	-12	-7	-3	-1	-7	-3	1	2	2	6	8	9	-3	2	5	7	-5	-1	3	5	6	5	3	5
NICOSIA TO ROME																									1046 N.MI.
55,000	-56.5	-58	-1	2	3	-57	-1	2	3	-62	-8	-4	-3	-61	-5	-3	-1	-60	-3	-0	1	4	3	3	3
40,000	-56.5	-56	0	3	5	-57	-1	3	5	-48	8	10	12	-56	0	2	4	-55	2	5	7	5	3	3	3
30,000	-44.5	-49	-5	-2	-1	-46	-1	1	3	-34	10	13	14	-41	3	5	7	-42	2	6	8	3	3	3	3
20,000	-21.2	-24	-2	0	2	-19	2	5	6	-9	12	14	15	-15	6	8	9	-17	5	8	10	4	4	3	3
10,000	- 4.6	-8	-3	-0	1	-2	2	5	7	7	12	14	15	2	6	8	10	-0	4	8	9	4	4	3	3
NICOSIA TO TEL AVIV-JAFFA																									206 N.MI.
55,000	-56.5	-62	-6	-3	-2	-61	-4	-2	-1	-70	-13	-11	-10	-64	-8	-6	-4	-64	-8	-5	-3	4	3	3	3
40,000	-56.5	-55	2	4	6	-56	1	4	6	-47	10	12	13	-56	1	3	4	-53	3	6	8	4	3	3	3
30,000	-44.5	-47	-2	0	1	-43	1	4	5	-28	17	19	20	-40	5	7	8	-39	5	9	12	3	3	3	3
20,000	-21.2	-20	1	3	5	-17	4	7	8	-5	17	18	19	-13	8	10	11	-14	8	11	13	3	3	3	2
10,000	- 4.6	-5	0	2	4	1	5	8	9	11	16	17	18	5	10	12	13	3	8	11	13	4	4	2	3
ROME TO SEATTLE																									1720 N.MI.
55,000	-56.5	-53	4	7	9	-51	6	9	10	-49	8	10	11	-53	4	7	8	-51	5	8	9	6	4	3	4
40,000	-56.5	-54	2	7	9	-52	5	8	10	-51	6	9	11	-52	4	7	9	-52	4	8	10	7	5	5	5
30,000	-44.5	-51	-7	-4	-3	-50	-6	-3	-2	-43	1	4	5	-48	-3	-1	1	-48	-4	-0	2	4	4	4	4
20,000	-21.2	-30	-9	-4	-2	-28	-7	-3	-2	-16	5	7	9	-25	-4	-0	1	-25	-4	1	3	7	5	4	5
10,000	- 4.6	-14	-10	-5	-3	-12	-8	-5	-4	-1	4	6	7	-9	-4	-1	0	-9	-5	-1	1	7	4	3	4
OSAKA TO SYDNEY																									1214 N.MI.
55,000	-56.5	-63	-6	-4	-2	-61	-5	-2	-1	-57	-1	2	3	-56	0	2	1	-59	-3	-0	1	4	4	4	3
40,000	-56.5	-56	0	3	5	-56	1	4	5	-54	2	6	7	-53	4	7	9	-55	2	6	8	4	4	5	5
30,000	-44.5	-40	4	6	8	-45	-0	3	4	-49	-5	-2	-1	-44	-1	1	3	-45	-0	3	4	3	4	4	4
20,000	-21.2	-14	8	10	11	-16	3	6	7	-24	-2	0	1	-20	1	4	5	-19	2	6	7	3	4	4	4
10,000	- 4.6	3	8	10	11	-1	3	5	6	-6	-1	1	2	-3	2	4	6	-2	3	6	8	3	3	3	4
OKINAWA TO OSAKA																									642 N.MI.
55,000	-56.5	-64	-8	-4	-2	-66	-9	-6	-4	-65	-10	-7	-5	-66	-9	-6	-4	-66	-9	-5	-3	5	5	5	5
40,000	-56.5	-50	8	9	11	-54	3	6	7	-49	8	11	12	-52	5	7	9	-51	5	9	10	4	4	4	4
30,000	-44.5	-36	8	11	12	-36	8	11	12	-28	17	19	20	-31	14	16	17	-33	12	15	17	4	4	4	3
20,000	-21.2	-16	5	7	9	-11	10	13	14	-4	17	19	20	-8	13	15	17	-10	11	14	16	4	4	3	3
10,000	- 4.6	-4	1	3	5	2	7	9	11	11	16	17	18	6	11	13	14	4	8	11	13	4	4	2	3
OKINAWA TO TAIPEI																									346 N.MI.
55,000	-56.5	-71	-15	-11	-9	-72	-15	-12	-10	-71	-14	-11	-9	-69	-13	-10	-8	-71	-14	-11	-9	5	5	5	5
40,000	-56.5	-52	5	7	8	-54	4	6	7	-50	7	9	11	-52	5	7	8	-52	5	8	9	3	4	4	3
30,000	-44.5	-32	12	14	15	-33	11	13	14	-28	18	18	19	-30	15	17	18	-31	13	16	17	3	3	3	3
20,000	-21.2	-10	11	13	14	-8	14	15	16	-4	17	18	19	-6	15	17	18	-7	14	16	17	3	3	2	3
10,000	- 4.6	2	7	8	10	6	11	13	14	11	16	17	18	8	13	14	15	7	11	14	15	3	3	2	2
OKINAWA TO TOKYO																									827 N.MI.
55,000	-56.5	-64	-7	-4	-2	-65	-9	-5	-4	-66	-10	-6	-4	-65	-9	-5	-1	-65	-9	-5	-3	5	5	5	5
40,000	-56.5	-50	7	10	11	-54	3	6	7	-49	8	10	12	-52	5	7	9	-51	5	9	10	4	5	4	4
30,000	-44.5	-37	8	11	12	-36	8	11	12	-28	17	19	20	-31	14	16	17	-33	12	15	17	4	4	4	3
20,000	-21.2	-17	4	7	8	-11	10	13	14	-4	17	19	20	-8	13	15	17	-10	11	14	16	4	4	3	3
10,000	- 4.6	-4	0	3	4	2	7	9	11	11	15	17	18	6	11	13	14	4	8	11	13	4	4	2	3
OSAKA TO TOKYO																									217 N.MI.
55,000	-56.5	-57	-1	3	5	-61	-4	-1	1	-63	-6	-3	-1	-62	-6	-2	-0	-61	-4	0	3	6	5	5	5
40,000	-56.5	-49	8	11	13	-54	2	6	8	-48	8	11	12	-52	5	8	9	-51	6	9	11	5	5	4	4
30,000	-44.5	-42	3	6	8	-38	6	9	11	-24	17	20	21	-33	11	14	15	-35	9	13	16	5	5	4	6
20,000	-21.2	-23	-2	1	3	-15	6	10	11	-4	17	19	20	-10	11	13	15	-13	8	12	14	4	5	3	4
10,000	- 4.6	-9	-5	-1	1	-1	4	6	8	10	15	17	18	3	8	10	12	1	5	9	11	5	4	4	4
OSLO TO PARIS																									714 N.MI.
55,000	-56.5	-58	-1	2	4	-53	3	6	7	-49	8	10	11	-57	-0	2	4	-54	2	6	8	5	4	3	4
40,000	-56.5	-59	-2	2	4	-54	2	7	9	-50	6	10	12	-56	0	4	6	-55	2	6	9	6	7	6	5
30,000	-44.5	-51	-7	-4	-3	-49	-4	-1	-0	-42	3	6	7	-45	-1	2	4	-47	-2	1	3	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-24	-3	1	2	-15	6	8	10	-20	2	5	7	-22	-1	3	5	6	5	4	5
10,000	- 4.6	-12	-7	-4	-2	-8	-3	-0	2	0	5	7	8	-5	0	3	5	-6	-1	2	4	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	*D50	075	085	APRIL 50	050	075	085	JULY 50	050	075	085	OCTOBER 50	050	075	085	ANNUAL 50	050	075	085	STANDARD DEVIATION: JAN	APR	JUL	OCT
OSLO TO REYKJAVIK																									960 N.MI.
55,000	-56.5	-58	-2	2	4	-50	6	9	11	-46	11	13	14	-55	2	5	6	-52	4	8	10	5	4	3	4
40,000	-56.5	-58	-1	3	6	-50	6	11	13	-47	9	13	15	-54	3	7	9	-52	4	9	11	6	7	5	6
30,000	-44.5	-53	-9	-6	-4	-49	-5	-2	-0	-44	0	3	5	-47	-3	0	2	-48	-4	-0	2	4	4	4	5
20,000	-21.2	-31	-10	-6	-4	-28	-7	-3	-1	-19	2	5	7	-23	-2	2	4	-25	-4	0	2	6	5	4	6
10,000	- 4.6	-14	-10	-6	-5	-12	-7	-4	-2	-3	2	4	5	-8	-3	0	2	-9	-5	-1	1	5	5	3	5
OSLO TO ROME																									1088 N.MI.
55,000	-56.5	-57	-0	3	5	-54	3	5	7	-51	6	8	9	-58	-1	1	3	-55	2	5	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	5	7	-51	6	9	11	-56	0	3	5	-55	1	5	8	5	6	5	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-40	4	7	8	-44	0	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-14	7	9	11	-18	3	6	8	-21	0	4	6	6	4	3	5
10,000	- 4.6	-12	-7	-3	-1	-7	-2	1	2	2	6	9	10	-4	1	4	6	-5	-1	3	5	6	4	3	5
OSLO TO SEATTLE																									3962 N.MI.
55,000	-56.5	-59	-2	2	4	-48	8	11	12	-45	11	13	14	-53	3	5	7	-51	5	8	10	6	4	3	3
40,000	-56.5	-57	-1	3	5	-50	6	10	12	-47	9	13	14	-52	4	8	9	-52	5	9	11	6	6	5	5
30,000	-44.5	-56	-11	-9	-7	-51	-7	-4	-2	-45	-0	2	3	-50	-5	-3	-1	-51	-6	-3	-1	4	4	3	4
20,000	-21.2	-36	-15	-11	-9	-32	-11	-7	-5	-20	1	4	5	-28	-7	-3	-1	-29	-8	-3	-1	6	5	4	5
10,000	- 4.6	-22	-17	-13	-11	-17	-12	-9	-7	-4	0	3	4	-13	-8	-5	-3	-14	-9	-5	-3	6	5	4	5
OSLO TO STOCKHOLM																									220 N.MI.
55,000	-56.5	-58	-2	1	3	-52	4	7	9	-46	10	12	13	-56	1	3	5	-53	3	7	9	5	4	3	4
40,000	-56.5	-59	-3	1	3	-53	4	8	10	-49	8	11	13	-55	1	5	7	-54	2	7	10	6	6	5	6
30,000	-44.5	-53	-9	-6	-5	-50	-6	-3	-2	-43	2	5	6	-47	-2	1	2	-48	-4	0	2	4	4	4	4
20,000	-21.2	-31	-10	-6	-4	-26	-5	-2	0	-17	5	7	8	-22	-1	3	5	-24	-3	1	3	6	5	4	6
10,000	- 4.6	-16	-11	-7	-5	-10	-6	-2	-1	-1	4	6	7	-6	-2	2	3	-8	-4	-0	2	6	5	3	5
OSLO TO TOKYO																									4547 N.MI.
55,000	-56.5	-56	1	4	6	-50	7	10	11	-47	10	12	13	-53	4	6	8	-51	5	9	10	5	4	4	4
40,000	-56.5	-57	-1	3	5	-50	7	11	13	-48	9	12	14	-52	5	8	10	-52	5	9	12	5	6	5	5
30,000	-44.5	-55	-11	-8	-6	-49	-5	-2	-0	-37	7	10	12	-47	-3	0	2	-47	-3	2	5	4	5	5	5
20,000	-21.2	-36	-14	-11	-9	-29	-7	-4	-2	-14	8	10	12	-25	-3	0	2	-26	-4	1	4	5	6	4	6
10,000	- 4.6	-22	-18	-14	-12	-14	-10	-6	-4	1	6	8	10	-11	-6	-3	-1	-12	-7	-2	1	5	6	4	5
OSLO TO WARSAW																									578 N.MI.
55,000	-56.5	-57	-1	3	4	-55	4	6	8	-47	9	11	12	-56	0	3	4	-53	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	3	7	9	-50	7	10	12	-56	1	4	6	-55	2	6	9	5	6	5	5
30,000	-44.5	-53	-8	-6	-4	-50	-5	-3	-1	-42	3	5	7	-46	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-30	-9	-5	-3	-25	-4	-0	1	-15	6	8	9	-20	1	4	6	-23	-2	2	4	6	5	3	5
10,000	- 4.6	-15	-10	-6	-4	-9	-5	-1	0	-0	4	7	8	-6	-2	2	4	-8	-3	1	3	6	5	3	5
OSLO TO ZURICH																									751 N.MI.
55,000	-56.5	-57	-1	3	4	-51	3	6	7	-49	8	10	11	-57	-1	2	3	-54	2	6	7	5	4	3	4
40,000	-56.5	-59	-2	2	4	-55	2	6	8	-50	6	10	12	-54	0	4	6	-55	2	6	8	6	6	5	5
30,000	-44.5	-52	-7	-4	-1	-49	-4	-2	-0	-41	3	6	7	-45	-0	2	4	-47	-2	1	3	4	4	4	4
20,000	-21.2	-29	-7	-3	-1	-24	-1	0	2	-15	6	9	10	-19	2	5	7	-22	-0	3	5	6	5	3	5
10,000	- 4.6	-13	-8	-4	-2	-8	-3	-0	2	1	5	7	9	-5	0	3	5	-6	-1	2	4	6	5	3	5
OTTAWA TO ST. LOUIS																									763 N.MI.
55,000	-56.5	-60	-3	-0	1	-58	-1	1	3	-61	-4	-2	-1	-62	-6	-3	-1	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	1	4	7	-56	0	4	6	-54	3	5	6	-55	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-4	-1	0	-46	-2	1	2	-36	8	10	12	-42	3	5	7	-41	1	5	7	4	3	3	4
20,000	-21.2	-25	-4	-0	2	-20	1	4	5	-10	11	13	14	-15	6	9	11	-18	4	7	9	5	4	3	5
10,000	- 4.6	-11	-6	-2	-0	-5	-1	3	5	5	10	12	13	1	5	9	11	-3	2	6	8	6	5	3	5
OTTAWA TO WASHINGTON, D.C.																									593 N.MI.
51,000	-56.5	-60	-3	-0	1	-58	-1	2	3	-60	-4	-1	0	-62	-6	-3	-1	-60	-3	-0	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	1	5	7	-54	3	5	6	-55	2	5	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-1	1	-46	-2	1	2	-37	8	10	11	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-24	-3	1	3	-21	0	3	5	-10	11	13	14	-15	6	9	11	-18	4	7	9	5	5	3	5
10,000	- 4.6	-11	-6	-2	0	-6	-2	2	4	5	9	11	12	0	5	8	10	-3	2	5	7	6	5	3	5
PADANG TO TANARAN																									1063 N.MI.
55,000	-56.5	-83	-26	-24	-23	-80	-24	-22	-21	-78	-22	-20	-19	-80	-24	-22	-21	-80	-24	-22	-20	3	3	3	3
40,000	-56.5	-55	2	3	4	-52	5	6	7	-54	2	3	3	-57	2	3	4	-54	3	4	5	2	2	1	2
10,000	-44.5	-11	14	15	15	-30	14	15	16	-31	14	15	15	-32	13	14	14	-31	14	15	15	2	2	2	1
20,000	-21.2	-5	17	17	18	-5	16	17	18	-5	16	17	17	-6	16	17	17	-5	16	17	17	1	1	1	1
10,000	- 4.6	10	14	15	15	10	15	16	16	9	14	14	15	10	14	15	15	10	14	15	16	1	1	1	1
PANAMA CITY TO QUITO																									556 N.MI.
55,000	-56.5	-78	-22	-20	-19	-77	-21	-19	-18	-74	-17	-16	-15	-78	-21	-20	-19	-77	-20	-18	-17	3	3	3	3
40,000	-56.5	-56	3	4	5	-52	5	6	7	-55	2	3	4	-56	2	4	4	-56	3	5	6	2	2	2	2
30,000	-44.5	-32	12	13	14	-30	14	15	16	-32	12	14	14	-31	14	15	15	-31	13	14	15	2	2	2	2
20,000	-21.2	-5	16	14	18	-4	17	18	19	-7	14	15	16	-6	16	17	17	-5	16	17	18	2	2	1	1
10,000	- 4.6	9	14	15	16	10	14	15	16	9	14	15	16	10	15	16	16	10	14	15	16	2	2	2	1
PANAMA TO RIO DE JANEIRO																									2858 N.MI.
55,000	-56.5	-77	-21	-19	-17	-76	-20	-18	-17	-71	-15	-12	-11	-74	-17	-15	-14	-75	-18	-15	-14	3	3	3	3
40,000	-56.5	-53	3	5	6	-52	5	7	8	-53	3	5	6	-54	3	4	5	-53	4	6	7	3	3	3	2
30,000	-44.5	-32	13	14	15	-31	14	15	16	-33	12	13	14	-31	13	15	16	-32	13	15	16	2	2	2	2
20,000	-21.2	-5	17	18	19	-5	16	18	18	-9	13	14	15	-6	15	16	17	-6	15	17	18	2	2	2	2
10,000	- 4.6	10	14	16	16	10	14	16	16	7	12	13	14	10	14	16	16	9	14	15	16	2	2	2	2
PANAMA TO SAN FRANCISCO																									2884 N.MI.
55,000	-56.5	-72	-15	-13	-12	-70	-14	-12	-11	-71	-15	-13	-12	-74	-18	-16	-15	-72	-15	-13	-12	3	3	2	3
40,000	-56.5	-56	1	3	5	-56	1	3	4	-55	1	3	3	-55	2	3	4	-55	1	3	4	4	3	2	2
30,000	-44.5	-39	5	7	8	-38	7	8	9	-33	12	13	13	-35	10	11	12	-36	8	10	11	2	2	2	2
20,000	-21.2	-12	9	12	13	-10	11	13	14	-6	15	16	16	-8	13	15	16	-9	12	14	14	3	3	1	2
10,000	- 4.6	4	9	11	12	7	11	14	15	11	15	16	17	8	13	15	15	8	12	14	15	3	3	2	2
PANAMA CITY TO SAN JOSE																									734 N.MI.
55,000	-56.5	-78	-21	-19	-18	-77	-20	-19	-18	-74	-17	-16	-15	-78	-22	-20	-19	-77	-20	-18	-17	3	3	2	3
40,000	-56.5	-54	3	4	5	-53	4	5	6	-55	1	2	3	-54	3	4	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-34	11	12	12	-32	13	14	14	-33	12	13	13	-31	13	14	15	-32	12	13	14	2	2	2	2
20,000	-21.2	-6	15	16	17	-5	16	17	18	-7	15	15	16	-6	16	17	17	-6	15	17	17	2	2	1	1
10,000	- 4.6	9	13	14	15	9	14	15	16	9	14	15	15	10	15	16	16	9	14	15	16	2	2	1	1

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*050	075	085	APRIL 50	050	075	085	JULY 50	050	075	085	OCTOBER 50	050	075	085	ANNUAL 50	050	075	085	STANDARD DEVIATION JAN	APR	JUL	OCT
PANAMA TO SAN JUAN																									960 N.MI.
53,000	-56.5	-77	-21	-19	-18	-77	-21	-19	-18	-73	-16	-15	-14	-77	-21	-19	-18	-76	-20	-18	-16	3	3	2	3
40,000	-56.5	-54	3	4	5	-53	4	5	6	-56	1	2	3	-54	3	4	4	-54	2	4	5	3	2	2	2
30,000	-44.5	-34	11	12	13	-32	12	14	14	-33	11	12	13	-32	13	14	14	-33	12	13	14	2	2	2	1
20,000	-21.2	-7	14	16	16	-6	15	17	17	-7	14	15	16	-6	16	16	17	-6	15	16	17	2	2	1	1
10,000	- 4.6	8	13	14	15	9	13	15	15	9	14	15	15	9	14	15	15	9	13	15	15	2	2	1	1
PANAMA TO SANTA MARIA																									3372 N.MI.
53,000	-56.5	-71	-15	-13	-12	-70	-14	-12	-11	-69	-12	-11	-10	-72	-16	-14	-13	-71	-14	-12	-11	3	3	2	3
40,000	-56.5	-56	1	3	4	-56	0	3	4	-55	1	3	3	-55	2	3	4	-56	1	3	4	4	3	2	2
30,000	-44.5	-39	6	8	9	-37	8	9	10	-35	10	11	12	-34	10	12	13	-36	8	10	11	3	2	2	2
20,000	-21.2	-11	10	12	12	-10	11	13	14	-8	14	15	15	-8	13	15	16	-9	12	13	14	3	3	2	2
10,000	- 4.6	5	9	11	12	5	9	11	12	8	12	14	14	7	12	13	14	6	11	12	13	3	2	2	2
PANAMA TO SANTIAGO																									2603 N.MI.
53,000	-56.5	-75	-18	-16	-15	-74	-18	-16	-15	-70	-13	-11	-10	-71	-15	-13	-11	-73	-16	-13	-12	3	3	3	3
40,000	-56.5	-53	3	5	7	-53	4	6	7	-53	3	5	6	-54	3	4	5	-53	3	6	7	3	3	3	3
30,000	-44.5	-33	11	13	14	-33	12	13	14	-35	10	11	12	-33	12	13	14	-33	11	13	14	2	2	3	2
20,000	-21.2	-6	15	17	17	-7	14	16	17	-11	10	12	12	-7	14	15	16	-8	13	15	16	2	2	2	2
10,000	- 4.6	9	14	15	16	8	13	14	15	6	10	12	13	8	12	14	14	8	12	14	15	2	2	2	2
PAPEETE TO SAN FRANCISCO																									3650 N.MI.
53,000	-56.5	-77	-20	-18	-17	-74	-18	-16	-15	-73	-17	-15	-14	-74	-17	-15	-14	-75	-18	-16	-15	3	3	3	3
40,000	-56.5	-55	2	4	6	-55	1	4	5	-54	2	3	4	-54	2	4	5	-55	2	4	4	4	3	2	2
30,000	-44.5	-36	9	11	11	-35	9	11	11	-34	11	12	13	-34	10	12	13	-35	10	11	12	3	2	2	2
20,000	-21.2	-9	12	14	15	-9	12	13	14	-7	14	15	16	-7	14	15	16	-8	13	15	15	2	2	2	2
10,000	- 4.6	7	12	13	14	7	12	13	14	9	14	15	15	9	13	15	15	8	13	14	15	2	2	2	2
PARIS TO RIO DE JANEIRO																									4957 N.MI.
53,000	-56.5	-71	-15	-12	-11	-70	-14	-12	-11	-69	-12	-10	-9	-71	-14	-12	-11	-70	-14	-11	-10	4	3	3	3
40,000	-56.5	-55	1	4	5	-55	2	5	6	-53	4	5	6	-54	2	4	5	-54	2	4	5	4	4	3	3
30,000	-44.5	-38	7	8	9	-36	9	10	11	-34	10	12	13	-35	10	12	12	-36	9	11	12	3	3	2	3
20,000	-21.2	-11	10	12	13	-10	11	13	14	-8	13	14	15	-9	13	14	15	-10	12	13	14	3	2	2	2
10,000	- 4.6	5	9	11	12	6	10	12	13	8	13	14	15	7	12	13	14	6	11	13	14	2	2	2	2
PARIS TO ROME																									606 N.MI.
53,000	-56.5	-57	-0	3	5	-55	1	4	5	-54	2	5	6	-59	-3	-0	1	-56	0	3	4	5	4	4	4
40,000	-56.5	-58	-2	2	4	-54	-1	3	5	-53	4	7	8	-56	0	3	4	-56	0	4	6	6	6	4	4
30,000	-44.5	-50	-5	-2	-1	-47	-2	0	2	-39	6	8	9	-43	2	5	6	-44	0	4	5	4	4	4	4
20,000	-21.2	-25	-4	-1	1	-21	0	3	5	-12	9	11	12	-19	5	7	9	-19	3	6	8	5	4	3	4
10,000	- 4.6	-8	-4	-0	2	-5	0	3	4	4	9	11	12	-1	4	6	6	-2	2	6	8	5	4	3	4
PARIS TO SAN FRANCISCO																									4035 N.MI.
53,000	-56.5	-57	-1	3	5	-51	5	8	9	-50	7	9	10	-55	1	4	5	-53	3	6	8	6	4	3	4
40,000	-56.5	-56	1	5	8	-52	4	8	11	-50	7	10	12	-53	3	7	9	-53	4	8	10	7	6	5	5
30,000	-44.5	-53	-8	-5	-4	-49	-5	-2	-0	-42	2	5	6	-47	-2	1	7	-48	-3	0	2	4	6	4	4
20,000	-21.2	-32	-11	-7	-4	-27	-6	-2	-0	-17	5	7	9	-23	-2	2	4	-25	-3	1	3	6	5	4	6
10,000	- 4.6	-17	-13	-8	-6	-12	-7	-4	-2	-1	4	6	8	-8	-3	0	2	-9	-5	-1	2	6	5	4	6
PARIS TO SANTA MARIA																									1399 N.MI.
53,000	-56.5	-59	-3	0	2	-57	-0	3	4	-57	-0	2	4	-60	-4	-1	-0	-58	-2	1	3	5	4	4	4
40,000	-56.5	-59	-2	2	4	-58	-1	3	5	-54	3	6	9	-57	-0	3	5	-57	-0	4	6	6	6	4	4
30,000	-44.5	-47	-3	-0	1	-45	-1	2	1	-36	7	9	10	-42	3	5	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-22	-0	3	5	-19	2	5	6	-12	10	12	11	-15	6	9	10	-17	4	7	9	5	4	3	4
10,000	- 4.6	-5	-0	3	4	-3	2	5	6	4	9	11	12	1	5	8	9	-1	4	7	9	5	4	3	4
PARIS TO SEATTLE																									4343 N.MI.
53,000	-56.5	-57	-1	3	5	-50	7	9	11	-47	9	12	13	-54	2	5	6	-52	4	6	9	6	4	3	4
40,000	-56.5	-56	0	5	7	-51	5	10	12	-48	8	11	13	-52	4	8	9	-52	4	9	11	6	6	5	5
30,000	-44.5	-54	-9	-7	-5	-50	-5	-3	-1	-44	1	3	5	-46	-3	-0	1	-49	-4	-1	1	4	4	4	4
20,000	-21.2	-34	-13	-9	-6	-20	-8	-4	-2	-16	3	5	7	-25	-4	-0	2	-27	-5	-1	1	6	6	4	6
10,000	- 4.6	-19	-15	-11	-8	-14	-9	-6	-4	-3	2	4	5	-10	-6	-2	-0	-12	-7	-3	-1	6	5	6	5
PARIS TO ZURICH																									260 N.MI.
53,000	-56.5	-57	-0	3	5	-55	2	5	6	-52	4	7	6	-58	-2	1	2	-55	1	4	6	5	4	4	4
40,000	-56.5	-58	-2	2	4	-57	-0	4	6	-52	4	7	9	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-50	-5	-3	-1	-47	-3	-0	1	-46	5	7	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-22	-0	3	4	-13	8	10	11	-17	4	1	8	-19	2	5	7	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-5	-1	2	4	3	7	9	11	-2	3	6	7	-3	1	5	7	5	4	3	4
PERTH TO RIO DE JANEIRO																									7305 N.MI.
53,000	-56.5	-50	7	10	11	-57	-0	2	4	-62	-6	-3	-2	-58	-2	2	4	-57	-0	4	6	4	4	4	5
40,000	-56.5	-49	7	11	12	-53	3	7	9	-61	-4	-1	1	-54	-2	2	4	-55	1	6	8	5	6	5	5
10,000	-44.5	-45	-1	2	4	-47	-3	-0	1	-54	-9	-7	-5	-51	-6	-4	-2	-49	-5	-1	1	4	4	4	4
20,000	-21.2	-21	-0	3	5	-26	-5	-1	1	-30	-9	-6	-5	-27	-6	-3	-1	-26	-5	-1	2	5	5	4	5
10,000	- 4.6	-7	-2	1	3	-10	-5	-2	0	-16	-11	-8	-7	-12	-7	-4	-2	-11	-6	-2	-0	5	5	4	5
PERTH TO SINGAPORE																									2111 N.MI.
53,000	-56.5	-79	-22	-20	-19	-76	-19	-17	-16	-74	-18	-16	-15	-75	-18	-16	-15	-76	-19	-17	-16	3	3	3	3
40,000	-56.5	-54	7	4	5	-53	5	5	5	-54	3	5	5	-54	3	5	6	-54	3	4	5	3	2	2	3
10,000	-44.5	-32	12	14	15	-14	11	12	13	-34	11	12	13	-35	10	11	12	-34	11	13	14	2	2	3	2
20,000	-21.2	-6	15	16	17	-8	13	15	15	-9	12	13	14	-9	17	14	15	-8	13	15	15	1	2	2	2
10,000	- 4.6	9	14	15	15	8	12	14	14	6	10	12	12	7	11	13	13	7	12	13	14	1	2	2	2
PERTH TO SYDNEY																									1769 N.MI.
53,000	-56.5	-65	-8	-6	-4	-63	-7	-4	-3	-60	-3	-1	0	-60	-3	-1	0	-62	-5	-3	-1	4	4	4	3
40,000	-56.5	-55	2	4	6	-56	0	3	4	-54	3	5	7	-53	4	7	9	-54	2	6	7	4	4	4	5
30,000	-44.5	-38	6	8	10	-42	2	4	5	-45	-1	2	3	-45	1	3	5	-42	2	5	7	3	3	4	3
20,000	-21.2	-11	10	12	13	-16	5	7	8	-22	-0	2	3	-17	4	6	7	-17	5	8	9	3	3	4	4
10,000	- 4.6	5	10	12	13	1	5	7	8	-4	0	3	4	-1	4	6	7	0	5	8	9	3	3	3	4
PERTH TO TOKYO																									4265 N.MI.
53,000	-56.5	-77	-20	-18	-17	-75	-18	-16	-15	-74	-17	-15	-14	-74	-18	-15	-14	-75	-18	-16	-14	3	3	4	3
40,000	-56.5	-53	4	5	6	-53	3	5	6	-53	4	6	7	-53	3	5	6	-53	3	5	6	3	3	3	3
30,000	-44.5	-32	13	14	15	-33	11	13	14	-32	13	14	15	-32	12	14	14	-32	12	14	15	2	2	3	2
20,000	-21.2	-7	14	15	16	-7	14	15	16	-7	14	16	16	-7	14	15	16	-7	14	15	16	2	2	2	2
10,000	- 4.6	8	12	13	14	8	13	14	15	8	13	14	15	8	13	14	15	8	13	14	15	2	2	2	2

*0--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE 65R ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
PESHAWAR TO RAWALPINDI																									82 N.MI.
53,000	-56.5	-63	-7	-4	-2	-62	-5	-3	-1	-67	-10	-7	-5	-64	-7	-5	-3	-64	-7	-4	-3	4	4	5	4
40,000	-56.5	-55	2	5	7	-54	2	6	8	-47	10	13	14	-54	3	6	7	-52	4	8	11	5	5	5	5
30,000	-44.5	-45	-1	2	4	-42	3	6	8	-27	17	20	22	-38	7	10	11	-38	7	11	14	4	5	4	4
20,000	-21.2	-20	1	4	5	-14	8	11	12	-3	18	20	23	-12	9	13	13	-12	9	13	15	4	4	3	4
10,000	-4.6	-4	1	3	5	4	8	11	12	14	19	21	22	4	9	12	13	5	9	13	15	4	4	3	4
PHILADELPHIA TO VANCOUVER																									2087 N.MI.
53,000	-56.5	-58	-1	2	3	-56	1	3	5	-57	-1	2	3	-60	-3	-1	1	-58	-1	2	3	5	4	3	4
40,000	-56.5	-55	1	5	7	-56	1	5	7	-54	3	5	7	-56	1	4	6	-55	3	4	6	6	6	4	5
30,000	-44.5	-51	-6	-3	-2	-48	-3	-1	0	-38	6	9	10	-43	3	4	5	-45	-0	3	5	4	3	3	4
20,000	-21.2	-28	-7	-2	-0	-22	-1	2	4	-11	10	12	13	-18	3	7	8	-20	1	5	7	6	5	3	5
10,000	-4.6	-14	-9	-4	-2	-7	-2	1	3	5	10	12	13	-2	3	7	9	-4	0	5	7	7	5	3	6
PITTSBURGH TO VANCOUVER																									1688 N.MI.
53,000	-56.5	-58	-1	2	3	-56	1	3	5	-57	-3	1	3	-60	-3	-3	1	-58	-1	2	3	5	4	3	4
40,000	-56.5	-56	1	5	7	-56	1	5	7	-54	3	5	7	-56	1	4	6	-55	1	4	6	6	6	4	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	0	-38	7	9	10	-43	1	4	5	-45	-0	3	5	4	3	3	4
20,000	-21.2	-28	-7	-2	0	-22	-1	2	4	-11	10	12	13	-18	3	7	8	-20	3	5	7	6	5	3	5
10,000	-4.6	-13	-9	-4	-1	-6	-2	2	4	5	10	12	14	-2	3	7	9	-4	3	5	7	7	5	3	6
POINTE A PITRE TO ST. MAARTEN																									140 N.MI.
53,000	-56.5	-76	-20	-18	-17	-77	-20	-19	-18	-72	-16	-16	-16	-77	-20	-18	-17	-76	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	3	5	6	-54	2	4	5	-56	1	2	3	-54	3	4	4	-54	2	3	4	3	2	2	2
30,000	-44.5	-35	10	11	12	-13	11	12	13	-34	11	12	12	-32	12	13	14	-34	11	12	13	2	2	3	2
20,000	-21.2	-8	13	15	15	-7	14	15	16	-7	14	15	16	-6	15	16	17	-7	14	16	16	2	2	3	3
10,000	-4.6	7	12	13	14	8	13	14	14	9	13	14	15	9	13	14	15	8	13	14	15	2	2	3	1
PORT-AU-PRINCE TO SAN JUAN																									360 N.MI.
53,000	-56.5	-76	-20	-18	-17	-76	-19	-18	-17	-72	-16	-16	-14	-77	-20	-18	-17	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	3	4	5	-54	2	4	4	-56	0	2	2	-54	3	4	4	-55	2	3	4	3	2	2	2
30,000	-44.5	-35	9	11	11	-34	11	12	12	-34	11	12	12	-32	12	13	14	-34	11	12	13	2	2	3	2
20,000	-21.2	-8	13	15	15	-7	14	15	16	-7	14	15	16	-6	15	16	17	-7	14	16	16	2	2	3	1
10,000	-4.6	7	12	13	14	8	12	14	14	9	13	14	15	9	13	14	15	8	13	14	14	2	2	3	3
PORT MORESBY TO SYDNEY																									1485 N.MI.
53,000	-56.5	-76	-19	-17	-16	-76	-17	-15	-13	-71	-15	-13	-12	-71	-15	-12	-11	-75	-17	-14	-12	3	4	3	3
40,000	-56.5	-51	4	5	6	-55	1	5	6	-56	2	4	5	-54	2	5	6	-54	3	5	6	3	3	3	4
30,000	-44.5	-35	11	11	14	-35	9	11	12	-37	8	10	11	-36	8	10	11	-35	9	11	13	3	3	3	3
20,000	-21.2	-7	14	14	17	-10	12	11	14	-12	9	11	12	-11	10	12	13	-10	11	13	14	2	3	3	2
10,000	-4.6	8	13	14	15	5	10	11	12	1	8	10	11	5	9	11	12	5	10	12	13	2	2	3	2
PORT MORESBY TO TOWNSVILLE																									585 N.MI.
53,000	-56.5	-81	-24	-22	-21	-79	-22	-20	-19	-77	-21	-19	-18	-78	-21	-19	-18	-79	-22	-20	-19	3	3	3	3
40,000	-56.5	-55	4	5	6	-57	4	6	7	-55	2	1	4	-56	2	4	5	-51	3	5	6	2	3	2	3
30,000	-44.5	-31	13	15	16	-12	12	14	15	-31	12	11	14	-12	12	14	15	-12	12	14	15	2	2	2	3
20,000	-21.2	-6	17	18	19	-6	15	17	17	-7	14	15	16	-7	14	16	16	-6	15	17	17	2	2	2	2
10,000	-4.6	10	14	16	16	8	13	14	15	8	13	14	15	8	13	14	15	9	13	15	16	2	2	2	2
PORTO ALEGRE TO SAO PAULO																									455 N.MI.
53,000	-56.5	-70	-16	-11	-10	-69	-13	-10	-9	-63	-6	-3	-2	-66	-7	-5	-1	-67	-10	-6	-5	4	4	4	4
40,000	-56.5	-57	4	7	9	-54	3	6	8	-52	5	7	9	-54	3	5	7	-53	4	6	8	4	4	3	4
30,000	-44.5	-35	9	11	13	-36	9	11	12	-40	5	7	8	-36	8	11	12	-37	8	10	12	3	3	3	4
20,000	-21.2	-7	14	17	18	-11	11	13	14	-16	7	9	10	-10	11	13	14	-10	11	14	15	3	3	3	3
10,000	-4.6	9	13	15	16	7	11	11	14	2	4	8	9	4	10	12	13	6	10	13	14	3	3	2	3
PRAGUE TO ROME																									503 N.MI.
53,000	-56.5	-56	0	4	6	-55	2	4	6	-56	3	5	7	-59	-2	0	1	-56	3	3	5	5	4	3	4
40,000	-56.5	-58	-1	2	4	-57	-1	3	5	-52	5	8	9	-56	0	3	4	-56	3	4	6	5	5	4	4
30,000	-44.5	-50	-4	-3	-2	-47	-3	-0	1	-39	6	8	9	-43	2	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-21	-0	3	4	-12	9	11	12	-17	4	7	9	-19	2	5	7	5	4	3	4
10,000	-4.8	-10	-5	-2	-0	-5	-1	2	4	4	8	10	11	-1	3	8	7	-3	1	5	7	5	4	3	4
PRAGUE TO SANTA MARIA																									1061 N.MI.
53,000	-56.5	-59	-2	1	3	-56	0	3	5	-56	1	3	5	-60	-3	-1	0	-58	-1	2	3	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-1	1	5	-55	1	4	8	-57	-0	3	5	-56	0	4	8	6	6	4	4
30,000	-44.5	-48	-4	-1	0	-46	-1	1	3	-38	4	8	10	-42	3	5	6	-44	1	4	6	4	4	3	4
20,000	-21.2	-23	-2	2	4	-20	1	4	6	-12	9	11	12	-16	6	8	10	-18	4	7	9	5	4	3	4
10,000	-4.8	-8	-2	1	3	-1	1	4	5	4	9	11	12	-0	5	7	9	-1	3	6	8	5	4	3	4
PRAGUE TO SHANNON																									878 N.MI.
53,000	-56.5	-57	-0	3	5	-56	1	6	7	-50	7	9	10	-57	-1	2	3	-56	2	5	7	5	4	4	4
40,000	-56.5	-58	-2	2	5	-55	1	6	8	-51	6	9	11	-56	0	4	8	-55	1	6	8	6	6	5	5
30,000	-44.5	-50	-4	-3	-2	-48	-3	-1	3	-43	4	6	8	-44	0	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-23	-2	2	1	-16	7	9	10	-19	3	6	8	-21	1	4	6	6	5	3	5
10,000	-4.8	-10	-6	-2	-0	-7	-2	1	3	1	6	8	9	-3	2	5	6	-5	-0	3	5	5	4	3	5
PRAGUE TO STOCKHOLM																									584 N.MI.
53,000	-56.5	-57	-0	3	5	-53	4	6	8	-48	9	11	12	-57	-0	3	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	2	6	8	-50	6	10	12	-56	1	4	6	-55	2	6	8	5	6	5	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-41	3	6	7	-45	-3	2	3	-47	-3	3	3	4	4	4	4
20,000	-21.2	-30	-8	-4	-2	-25	-3	-0	2	-15	6	8	10	-20	3	5	7	-22	-3	3	5	6	5	3	5
10,000	-4.8	-14	-10	-6	-3	-9	-4	-1	1	0	5	7	8	-4	-1	2	4	-7	-2	3	3	4	5	3	5
PRAGUE TO TEHERAN																									1818 N.MI.
53,000	-56.5	-57	-0	3	4	-55	1	1	5	-56	0	3	4	-59	-2	0	3	-57	-0	2	4	4	3	3	4
40,000	-56.5	-57	-1	1	4	-55	1	4	6	-48	8	11	12	-56	0	3	4	-54	2	6	8	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-46	-1	1	2	-35	9	12	13	-42	2	4	6	-44	3	5	7	4	4	4	4
20,000	-21.2	-26	-5	-1	0	-20	1	4	6	-10	13	14	15	-17	5	7	9	-18	3	7	9	5	5	3	4
10,000	-4.6	-11	-6	-3	-1	-4	1	4	6	6	10	12	13	-1	4	7	9	-2	2	6	8	5	5	3	4
PRAGUE TO TEL AVIV-JAFFA																									1422 N.MI.
53,000	-56.5	-58	-1	2	3	-56	0	2	4	-59	-3	-3	3	-60	-4	-2	-0	-58	-2	1	2	4	3	3	4
40,000	-56.5	-57	-0	3	5	-56	0	4	5	-48	8	10	12	-56	0	3	4	-54	2	6	8	5	5	3	4
30,000	-44.5	-50	-5	-3	-2	-46	-1	1	2	-35	10	12	13	-42	3	5	6	-43	1	5	7	3	3	3	3
20,000	-21.2	-25	-3	-0	1	-20	1	4	5	-10	11	13	14	-16	6	8	9	-17	4	7	9	4	4	3	3
10,000	-4.6	-9	-5	-2	-0	-3	1	4	6	6	10	12	13	1	5	8	9	-2	3	6	8	4	4	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
PRAGUE TO VIENNA																									149 N.MI.
35,000	-56.5	-56	1	4	6	-54	2	5	6	-51	6	8	9	-58	-1	1	3	-55	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	1	4	6	-51	5	8	10	-56	0	3	5	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-40	4	7	8	-44	1	4	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-23	-1	2	3	-13	8	10	11	-18	3	6	8	-20	1	4	6	6	4	3	5
10,000	-4.6	-12	-8	-4	-2	-7	-2	1	3	2	7	9	10	-5	2	5	7	-5	-0	3	5	6	5	3	5
PRAGUE TO WARSAW																									280 N.MI.
35,000	-56.5	-56	1	4	6	-54	3	5	7	-49	7	9	11	-57	-1	2	3	-54	2	6	7	5	4	3	4
40,000	-56.5	-58	-2	2	3	-55	1	5	7	-51	6	9	10	-56	0	3	5	-55	1	5	7	5	5	5	4
30,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-0	-41	4	7	8	-4A	0	3	4	-46	-2	2	4	4	4	A	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-1A	7	9	10	-19	3	6	8	-21	0	4	6	6	5	3	5
10,000	-4.6	-13	-9	-5	-3	-8	-3	0	2	1	6	8	9	-4	1	4	6	-6	-1	2	A	6	5	3	5
PRAGUE TO ZURICH																									277 N.MI.
35,000	-56.5	-56	1	4	6	-54	2	5	6	-51	5	7	9	-58	-2	1	2	-55	2	5	6	5	4	3	A
40,000	-56.5	-58	-2	2	4	-56	0	4	6	-52	5	8	9	-56	0	3	5	-56	1	5	7	5	5	5	4
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	1	-40	5	7	8	-43	1	4	5	-46	-1	3	A	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	4	-13	8	10	11	-18	4	7	8	-20	3	5	7	6	A	3	5
10,000	-4.6	-11	-7	-3	-1	-6	-2	1	3	2	7	9	10	-2	2	5	7	-4	0	4	6	6	4	3	5
PUNTA ARENAS TO SANTIAGO																									3180 N.MI.
35,000	-56.5	-55	1	4	5	-58	-1	1	3	-57	-0	3	4	-55	1	5	7	-56	0	4	6	4	4	A	5
40,000	-56.5	-53	4	7	9	-56	1	4	6	-55	2	5	7	-55	2	5	7	-54	2	6	8	4	5	5	5
30,000	-44.5	-43	2	5	6	-44	1	3	5	-50	-6	-3	-2	-45	-0	2	4	-A5	-1	2	4	4	3	A	A
20,000	-21.2	-17	5	7	9	-20	2	4	6	-26	-4	-2	-0	-19	2	5	7	-20	1	5	6	4	4	4	4
10,000	-4.6	1	6	8	10	-5	1	4	5	-8	-3	-1	0	-5	-0	2	3	-4	1	4	6	4	4	3	4
QUITO TO RIO DE JANEIRO																									2465 N.MI.
35,000	-56.5	-77	-20	-15	-17	-76	-19	-17	-16	-70	-14	-12	-10	-72	-16	-14	-13	-74	-17	-34	-13	4	3	4	3
40,000	-56.5	-55	4	6	7	-52	5	7	8	-55	4	5	6	-56	3	4	5	-55	4	6	8	3	4	3	3
30,000	-44.5	-32	13	14	15	-31	13	15	16	-33	12	13	14	-32	13	14	15	-32	33	14	15	2	3	3	2
20,000	-21.2	-5	16	18	19	-5	16	17	18	-9	12	13	14	-6	15	1A	17	-6	35	36	37	2	2	2	2
10,000	-4.6	10	14	16	16	9	14	15	16	7	11	13	14	9	14	15	16	9	13	35	3A	2	2	2	2
RANGOON TO SINGAPORE																									1043 N.MI.
35,000	-56.5	-81	-25	-23	-22	-78	-22	-20	-19	-78	-22	-20	-18	-80	-24	-22	-21	-79	-23	-23	-39	3	3	3	3
40,000	-56.5	-55	1	3	4	-52	5	6	7	-54	2	4	4	-54	2	3	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-31	13	34	15	-30	15	16	17	-30	14	15	16	-31	13	14	15	-31	14	15	36	2	2	1	2
20,000	-21.2	-5	16	17	18	-4	17	18	19	-5	17	17	18	-6	16	17	17	-5	16	18	18	2	2	1	2
10,000	-4.6	9	14	33	15	10	15	16	16	10	14	15	15	9	14	15	15	10	14	15	16	2	2	1	1
RAWALPINDI TO PESHAWAR																									72 N.MI.
35,000	-56.5	-63	-7	-4	-2	-62	-5	-3	-1	-67	-10	-7	-5	-64	-7	-5	-3	-64	-7	-4	-3	4	4	5	4
40,000	-56.5	-55	2	5	7	-54	2	6	8	-47	10	13	14	-54	3	6	7	-52	4	8	13	5	5	5	5
30,000	-44.5	-45	-1	2	4	-42	3	6	9	-27	17	20	22	-38	7	10	11	-38	7	11	14	4	5	4	4
20,000	-21.2	-20	1	4	5	-14	8	11	12	-1	18	20	21	-12	9	11	13	-17	9	33	35	4	4	3	4
10,000	-4.6	-4	1	3	5	4	8	11	17	14	19	21	22	4	9	12	13	5	9	13	15	4	4	3	4
RECIFE TO RIO DE JANEIRO																									3003 N.MI.
35,000	-56.5	-76	-20	-37	-16	-76	-18	-17	-15	-69	-15	-10	-9	-71	-14	-12	-11	-73	-17	-13	-11	4	3	4	3
40,000	-56.5	-55	4	5	7	-52	4	7	8	-52	5	6	7	-55	3	5	6	-55	4	6	7	3	4	3	3
30,000	-44.5	-32	13	14	15	-32	12	14	15	-33	11	13	14	-33	12	14	15	-32	12	14	15	3	3	3	3
20,000	-21.2	-5	16	18	19	-6	15	15	17	-9	12	14	15	-7	14	1A	16	-7	14	16	17	2	2	2	2
10,000	-4.6	9	14	15	16	9	14	15	16	6	11	12	13	9	14	33	14	9	33	15	1A	2	2	2	2
RECIFE TO SAO PAULO																									1148 N.MI.
35,000	-56.5	-76	-20	-17	-16	-75	-19	-16	-15	-69	-12	-10	-8	-73	-14	-12	-13	-73	-16	-13	-11	4	3	4	3
40,000	-56.5	-53	4	6	7	-52	4	7	8	-52	5	6	7	-53	3	5	6	-53	4	6	7	3	4	3	3
30,000	-44.5	-32	12	14	15	-32	12	14	15	-33	11	13	14	-33	12	14	15	-33	12	14	35	3	3	3	3
20,000	-21.2	-5	16	18	19	-6	15	16	17	-9	12	14	15	-7	34	1A	1A	-7	14	36	17	2	2	2	2
10,000	-4.6	9	14	15	16	9	14	15	16	6	10	12	13	9	14	15	16	8	13	35	3A	2	2	2	2
RIO DE JANEIRO TO ROME																									49A1 N.MI.
35,000	-56.5	-72	-16	-14	-32	-72	-15	-13	-12	-71	-14	-12	-11	-72	-15	-13	-32	-72	-15	-33	-12	4	3	3	3
40,000	-56.5	-55	2	4	A	-54	3	5	7	-52	4	6	6	-54	3	4	5	-54	3	5	6	4	4	2	3
30,000	-44.5	-37	7	9	10	-35	10	11	32	-33	11	13	14	-34	10	32	13	-35	10	11	12	2	2	2	2
20,000	-21.2	-11	11	32	13	-9	12	13	14	-7	14	15	16	-8	13	14	15	-9	12	14	15	2	2	2	2
10,000	-4.6	6	10	12	12	7	11	13	14	30	14	15	16	8	12	14	15	7	12	14	15	2	2	2	2
RIO DE JANEIRO TO SAL ISLAND																									2A33 N.MI.
35,000	-56.5	-77	-21	-19	-17	-77	-20	-18	-37	-72	-15	-13	-12	-75	-18	-16	-15	-75	-19	-16	-14	3	3	3	3
40,000	-56.5	-54	3	5	6	-53	4	6	7	-53	3	5	6	-53	3	5	A	-53	3	6	7	3	4	2	2
30,000	-44.5	-33	12	13	14	-31	13	15	16	-33	32	13	14	-32	13	14	15	-32	12	14	15	2	2	2	2
20,000	-21.2	-6	15	16	17	-6	15	16	17	-7	14	15	16	-6	15	16	17	-6	15	16	17	2	2	2	2
10,000	-4.6	9	14	15	15	9	14	15	16	8	12	14	14	10	14	16	16	9	14	15	16	2	2	2	2
RIO DE JANEIRO TO SAN FRANCISCO																									3741 N.MI.
31,000	-56.5	-74	-18	-16	-15	-73	-17	-15	-14	-71	-15	-13	-12	-74	-18	-16	-14	-73	-17	-14	-13	3	3	3	3
40,000	-56.5	-54	2	4	5	-54	3	5	6	-54	2	4	5	-54	2	4	5	-54	2	5	6	3	3	2	2
30,000	-44.5	-36	9	10	11	-34	10	12	12	-33	12	13	14	-33	12	13	14	-34	31	12	13	2	2	2	2
20,000	-21.2	-8	13	15	16	-8	14	15	16	-7	14	15	15	-7	14	16	16	-8	14	15	16	3	2	2	2
10,000	-4.6	7	12	13	14	8	13	15	16	9	14	15	16	9	14	15	16	8	13	14	15	3	3	2	2
RIO DE JANEIRO TO SAN JUAN																									2811 N.MI.
35,000	-56.5	-77	-21	-19	-18	-77	-20	-18	-17	-71	-15	-13	-11	-74	-18	-16	-15	-75	-18	-16	-14	3	3	3	3
40,000	-56.5	-53	3	5	6	-52	4	6	8	-54	3	4	5	-54	3	4	5	-53	3	6	7	3	3	2	2
30,000	-44.5	-32	12	13	14	-31	13	15	16	-33	12	13	14	-31	13	15	16	-32	13	14	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-5	16	17	18	-8	13	14	15	-6	15	16	17	-6	15	17	17	2	2	2	2
10,000	-4.6	9	14	15	16	10	14	16	16	8	12	14	14	10	14	16	16	9	14	15	16	2	2	2	2
RIO DE JANEIRO TO SANTIAGO																									1581 N.MI.
35,000	-56.5	-69	-12	-9	-8	-68	-11	-9	-7	-62	-5	-2	-1	-63	-6	-3	-2	-65	-9	-5	-3	4	4	4	4
40,000	-56.5	-53	4	7	8	-54	2	5	7	-52	5	7	9	-54	3	5	7	-53	3	6	8	4	5	4	4
30,000	-44.5	-37	8	10	11	-37	8	10	11	-41	3	6	7	-37	8	10	11	-38	7	9	11	3	3	3	4
20,000	-21.2	-8	13	15	16	-11	10	12	13	-16	5	7	8	-10	11	13	14	-12	10	12	14	3	3	3	3
10,000	-4.6	8	13	15	16	5	10	12	13	1	5	7	8	4	9	11	12	5	9	12	13	3	3	3	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
RIO DE JANEIRO TO SAO PAULO																									196 N.MI.
55,000	-56.5	-73	-17	-14	-12	-72	-16	-13	-12	-65	-9	-6	-5	-67	-10	-8	-6	-69	-13	-9	-7	4	4	4	4
40,000	-56.5	-52	5	7	9	-53	4	6	8	-52	5	7	8	-54	3	5	7	-52	4	6	8	4	4	3	4
30,000	-44.5	-33	11	13	14	-35	10	12	13	-37	8	10	11	-35	10	12	13	-35	10	12	13	3	3	3	3
20,000	-21.2	-6	15	17	18	-9	12	14	15	-12	9	11	12	-9	12	14	15	-9	12	15	16	3	3	3	3
10,000	-4.6	9	14	15	16	8	13	14	15	4	8	10	11	7	12	14	15	7	12	14	15	2	3	2	3
RIO DE JANEIRO TO SEATTLE																									5978 N.MI.
55,000	-56.5	-72	-16	-14	-12	-71	-14	-12	-11	-69	-13	-11	-10	-72	-15	-13	-12	-71	-15	-12	-11	3	3	3	3
40,000	-56.5	-55	2	4	6	-54	2	5	6	-54	2	4	5	-55	2	4	5	-54	2	4	6	4	4	2	3
30,000	-44.5	-38	7	9	9	-36	8	10	11	-34	11	12	13	-34	10	12	13	-35	9	11	12	2	2	2	2
20,000	-21.2	-11	10	12	13	-10	12	13	14	-8	13	14	15	-8	13	14	15	-9	12	13	14	3	3	2	2
10,000	-4.6	4	9	11	12	5	11	13	14	9	13	15	15	8	12	14	15	7	11	13	14	3	3	2	3
RIO DE JANEIRO TO TRINIDAD																									2270 N.MI.
55,000	-56.5	-77	-21	-19	-17	-77	-20	-18	-17	-71	-14	-12	-11	-74	-17	-15	-14	-75	-18	-15	-14	3	3	3	3
40,000	-56.5	-53	3	5	6	-52	5	7	8	-53	3	5	6	-54	3	4	5	-53	4	6	7	3	3	3	2
30,000	-44.5	-32	12	14	15	-31	14	15	16	-32	12	14	14	-31	14	15	16	-32	13	15	16	2	2	2	2
20,000	-21.2	-5	16	18	19	-5	16	17	18	-8	13	14	15	-6	15	16	17	-6	15	17	18	2	2	2	2
10,000	-4.6	10	14	15	16	10	14	16	16	8	12	13	14	10	14	16	16	9	14	15	16	2	2	2	2
ROME TO SAN FRANCISCO																									5456 N.MI.
55,000	-56.5	-57	-1	3	5	-52	5	7	9	-50	7	9	10	-56	1	3	5	-54	3	6	7	6	4	3	4
40,000	-56.5	-56	0	5	7	-53	4	8	10	-50	7	10	11	-55	3	7	8	-55	3	7	9	6	6	5	5
30,000	-44.5	-53	-8	-5	-4	-49	-4	-2	-0	-42	2	5	6	-46	-2	1	3	-48	-3	0	2	4	4	4	4
20,000	-21.2	-31	-10	-8	-6	-27	-5	-2	0	-16	5	7	9	-23	-1	2	4	-24	-3	1	3	6	5	4	5
10,000	-4.6	-17	-12	-8	-6	-11	-7	-3	-1	-0	4	7	8	-7	-3	1	3	-9	-4	-0	2	6	5	4	5
ROME TO SANTA MARIA																									1761 N.MI.
55,000	-56.5	-59	-3	0	2	-58	-1	2	3	-59	-3	-1	1	-61	-5	-3	-1	-59	-3	0	2	5	4	4	3
40,000	-56.5	-58	-2	2	4	-58	-2	2	4	-53	3	6	7	-56	0	3	4	-56	0	3	5	6	5	4	4
30,000	-44.5	-47	-2	-0	1	-45	-0	2	3	-37	8	10	11	-41	4	6	8	-42	2	5	7	3	4	3	4
20,000	-21.2	-21	0	3	5	-18	3	5	7	-11	11	12	13	-14	7	9	10	-16	5	8	10	4	4	3	3
10,000	-4.6	-4	1	3	5	-1	3	6	7	7	12	13	14	2	6	8	10	1	5	8	10	4	4	3	3
ROME TO SHANGHAI																									4919 N.MI.
55,000	-56.5	-55	2	5	7	-53	3	6	7	-52	5	8	9	-56	0	3	5	-54	3	6	7	5	4	4	4
40,000	-56.5	-56	0	3	5	-53	4	7	9	-48	9	12	13	-53	3	6	8	-53	4	8	10	5	5	5	5
30,000	-44.5	-51	-7	-4	-3	-45	-2	2	3	-34	10	13	15	-43	1	4	6	-44	1	6	8	4	5	5	4
20,000	-21.2	-28	-7	-3	-1	-21	-0	3	5	-10	11	13	15	-18	2	6	7	-20	2	6	8	5	5	3	5
10,000	-4.6	-14	-8	-5	-3	-6	-1	2	4	5	9	12	13	-4	0	4	5	-5	-0	4	4	6	5	3	5
ROME TO SHANNON																									1046 N.MI.
55,000	-56.5	-57	-1	3	5	-55	2	4	6	-53	3	6	7	-59	-2	0	2	-56	1	4	5	5	4	4	4
40,000	-56.5	-58	-2	3	5	-57	-0	4	6	-52	4	8	9	-56	0	3	5	-56	1	5	7	6	6	5	5
30,000	-44.5	-49	-5	-2	-1	-47	-2	0	2	-39	5	7	9	-43	1	4	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-25	-4	-0	2	-21	-0	3	4	-13	8	10	12	-17	4	7	9	-19	2	6	7	5	4	3	4
10,000	-4.6	-8	-4	-0	2	-5	-0	2	4	3	8	10	11	-1	3	6	7	-3	2	5	7	5	4	3	4
ROME TO STOCKHOLM																									1080 N.MI.
55,000	-56.5	-56	0	3	5	-54	3	5	7	-51	6	8	9	-58	-1	1	3	-55	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-56	1	5	7	-51	6	8	11	-56	0	3	5	-55	1	5	7	5	6	5	5
30,000	-44.5	-52	-7	-4	-3	-48	-4	-1	0	-40	4	7	8	-44	0	3	5	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-14	7	10	11	-19	3	6	[illegible]	-21	0	4	6	6	5	3	5
10,000	-4.6	-12	-8	-6	-2	-7	-3	0	2	2	6	9	10	-4	1	4	6	-5	-1	3	5	6	5	3	5
ROME TO TEHERAN																									1655 N.MI.
55,000	-56.5	-58	-1	2	3	-57	-0	2	3	-61	-5	-3	-1	-61	-4	-2	-0	-59	-3	0	2	4	3	3	4
40,000	-56.5	-56	0	3	5	-56	0	4	6	-48	9	11	12	-56	0	3	4	-54	2	6	8	5	5	3	3
30,000	-44.5	-50	-5	-3	-1	-45	-1	2	3	-33	12	14	15	-41	3	5	7	-42	2	6	8	3	4	3	3
20,000	-21.2	-24	-3	-0	1	-19	2	5	6	-6	15	15	16	-15	6	8	9	-17	5	8	10	4	4	3	3
10,000	-4.6	-9	-4	-1	1	-2	3	5	7	8	12	14	15	2	6	8	10	-0	4	8	10	5	4	3	4
ROME TO TEL AVIV-JAFFA																									1216 N.MI.
55,000	-56.5	-59	-3	0	2	-58	-2	1	2	-64	-8	-6	-4	-62	-6	-3	-2	-61	-4	-2	-0	4	3	3	3
40,000	-56.5	-56	0	4	5	-57	-1	3	5	-48	9	11	12	-56	0	2	4	-54	2	6	7	5	5	3	3
30,000	-44.5	-48	-4	-2	-0	-45	-0	2	3	-33	12	14	15	-41	4	6	7	-42	3	7	9	3	3	3	3
20,000	-21.2	-23	-1	1	3	-16	5	5	7	-8	13	15	16	-14	7	8	10	-16	5	9	11	4	4	3	3
10,000	-4.6	-7	-2	1	2	-1	3	6	7	8	13	14	15	3	7	9	10	1	5	9	10	4	4	3	3
ROME TO TRIPOLI																									540 N.MI.
55,000	-56.5	-59	-3	0	2	-58	-2	1	2	-63	-6	-4	-3	-62	-6	-3	-2	-61	-4	-1	0	4	4	3	3
40,000	-56.5	-56	0	3	5	-57	-0	3	5	-50	7	9	10	-56	0	2	4	-55	2	5	7	5	5	3	3
30,000	-44.5	-47	-3	-1	0	-45	-0	2	3	-35	9	11	13	-41	4	6	7	-42	2	5	7	3	3	3	3
20,000	-21.2	-22	-1	2	4	-18	3	6	7	-9	12	14	15	-14	7	9	10	-16	6	9	10	4	3	2	3
10,000	-4.6	-5	-1	2	3	-1	4	6	8	9	13	15	16	2	7	9	10	1	6	9	11	4	4	3	3
ROME TO TUNIS																									317 N.MI.
55,000	-56.5	-58	-1	2	4	-57	-1	2	3	-61	-4	-2	-1	-61	-5	-2	-1	-59	-3	0	2	5	4	3	3
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-50	6	9	10	-56	0	2	4	-55	1	5	6	5	5	3	4
30,000	-44.5	-48	-3	-1	0	-46	-1	1	3	-36	8	10	11	-41	3	6	7	-43	2	5	7	3	4	3	4
20,000	-21.2	-23	-2	1	3	-19	3	5	8	-10	11	13	14	-15	6	8	10	-17	5	8	9	4	3	3	3
10,000	-4.6	-6	-1	2	3	-1	3	6	7	8	12	14	15	1	6	8	9	0	5	8	10	4	4	3	3
ROME TO VIENNA																									415 N.MI.
55,000	-56.5	-56	0	4	6	-55	1	4	5	-54	2	5	6	-59	-3	-0	1	-56	0	3	5	5	4	3	4
40,000	-56.5	-58	-1	2	4	-57	-1	3	5	-51	5	8	9	-56	0	3	4	-56	1	4	6	5	5	4	4
30,000	-44.5	-50	-6	-3	-2	-47	-3	0	1	-39	6	8	10	-43	2	5	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-1	0	-21	0	3	4	-12	9	11	12	-17	5	7	9	-19	2	6	8	5	4	3	4
10,000	-4.6	-10	-5	-2	-0	-5	-0	2	4	4	8	11	12	-1	3	6	8	-3	2	5	7	5	4	3	4
ROME TO WARSAW																									709 N.MI.
55,000	-56.5	-56	1	4	6	-55	2	4	6	-52	4	6	7	-58	-2	1	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-1	2	4	-56	0	3	5	-51	5	8	10	-56	0	3	4	-55	1	5	7	5	5	4	4
30,000	-44.5	-51	-6	-4	-3	-48	-3	-0	1	-39	5	8	9	-43	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	4	-13	8	10	12	-17	4	7	8	-20	2	5	7	5	4	3	4
10,000	-4.6	-11	-7	-3	-1	-6	-1	2	3	3	8	10	11	-2	2	5	7	-4	0	4	6	5	4	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPIRATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
ROME TO ZURICH																									380 N.MI.
55,000	-56.5	-56	0	4	5	-55	1	4	5	-55	2	4	5	-59	-3	-0	1	-56	0	3	4	5	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	4	-52	4	7	8	-56	0	3	4	-56	0	4	6	5	5	4	4
30,000	-44.5	-50	-5	-3	-1	-47	-2	0	2	-38	6	8	10	-42	2	5	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-4	-1	1	-21	1	3	5	-12	9	11	12	-16	5	7	9	-19	3	6	8	5	4	3	4
10,000	- 4.6	-9	-4	-1	1	-5	-0	3	4	4	9	11	12	-1	4	6	8	-2	2	6	8	5	4	3	4
ST. CROIX TO ST. THOMAS																									39 N.MI.
55,000	-56.5	-76	-20	-18	-17	-76	-20	-18	-17	-72	-16	-14	-14	-77	-20	-18	-17	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	3	4	5	-54	2	4	4	-56	1	2	2	-54	3	4	4	-54	2	3	4	3	2	2	2
30,000	-44.5	-35	9	11	12	-34	11	12	13	-34	11	12	12	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	13	15	15	-7	14	15	16	-7	14	15	16	-6	15	16	17	-7	14	15	16	2	2	1	1
10,000	- 4.6	7	12	13	14	8	12	14	14	9	13	14	15	9	13	14	15	8	13	14	14	2	2	1	1
ST. CROIX TO SAN JUAN																									81 N.MI.
55,000	-56.5	-76	-20	-18	-17	-76	-20	-18	-17	-72	-16	-14	-14	-77	-20	-18	-17	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	3	4	5	-54	2	4	4	-56	1	2	2	-54	3	4	4	-54	2	3	4	3	2	2	2
30,000	-44.5	-35	9	11	12	-34	11	12	13	-34	11	12	12	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	13	15	15	-7	14	15	16	-7	14	15	16	-6	15	16	17	-7	14	15	16	2	2	1	1
10,000	- 4.6	7	12	13	14	8	12	14	14	9	13	14	15	9	13	14	15	8	13	14	14	2	2	1	1
ST. KITTS TO ST. MAARTEN																									45 N.MI.
55,000	-56.5	-76	-20	-18	-17	-76	-20	-18	-17	-72	-16	-14	-14	-77	-20	-18	-17	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	3	4	5	-54	2	4	5	-56	1	2	3	-54	3	4	4	-54	2	3	4	3	2	2	2
30,000	-44.5	-35	9	11	12	-34	11	12	13	-34	11	12	12	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	13	15	15	-7	14	15	16	-7	14	15	16	-6	15	16	17	-7	14	15	16	2	2	1	1
10,000	- 4.6	7	12	13	14	8	12	14	14	9	13	14	15	9	13	14	15	8	13	14	14	2	2	1	1
ST. KITTS TO ST. THOMAS																									138 N.MI.
55,000	-56.5	-76	-20	-18	-17	-76	-20	-18	-17	-72	-16	-14	-14	-77	-20	-18	-17	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	3	4	5	-54	2	4	5	-56	1	2	3	-54	3	4	4	-54	2	3	4	3	2	2	2
30,000	-44.5	-35	9	11	12	-34	11	12	13	-34	11	12	12	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	13	15	15	-7	14	15	16	-7	14	15	16	-6	15	16	17	-7	14	15	16	2	2	1	1
10,000	- 4.6	7	12	13	14	8	12	14	14	9	13	14	15	9	13	14	15	8	13	14	14	2	2	1	1
ST. KITTS TO SAN JUAN																									195 N.MI.
55,000	-56.5	-76	-20	-18	-17	-76	-20	-18	-17	-72	-16	-14	-14	-77	-20	-18	-17	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	3	4	5	-54	2	4	5	-56	1	2	2	-54	3	4	4	-54	2	3	4	3	2	2	2
10,000	-44.5	-35	9	11	12	-34	11	12	13	-34	11	12	12	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	13	15	15	-7	14	15	16	-7	14	15	16	-6	15	16	17	-7	14	15	16	2	2	1	1
10,000	- 4.6	7	12	13	14	8	12	14	14	9	13	14	15	9	13	14	15	8	13	14	14	2	2	1	1
ST. MAARTEN TO ST. THOMAS																									107 N.MI.
55,000	-56.5	-76	-20	-18	-17	-76	-20	-18	-17	-72	-16	-14	-14	-76	-20	-18	-17	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	3	4	5	-55	2	4	4	-56	1	2	2	-54	3	4	4	-55	2	3	4	3	2	2	2
30,000	-44.5	-35	9	11	12	-34	11	12	12	-34	11	12	12	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	13	14	15	-7	14	15	16	-7	14	15	16	-6	15	16	17	-7	14	15	16	2	2	1	1
10,000	- 4.6	7	12	13	14	8	12	14	14	9	13	14	15	9	13	14	15	8	13	14	14	2	2	1	1
ST. MAARTEN TO SAN JUAN																									166 N.MI.
55,000	-56.5	-76	-20	-18	-17	-74	-20	-18	-17	-72	-16	-14	-14	-76	-20	-18	-17	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-54	3	4	5	-55	2	4	4	-56	1	2	2	-54	3	4	4	-55	2	3	4	3	2	2	2
30,000	-44.5	-35	9	11	12	-34	11	12	12	-34	11	12	12	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	13	14	15	-7	14	15	16	-7	14	15	16	-6	15	16	17	-7	14	15	16	2	2	1	1
10,000	- 4.6	7	12	13	14	8	12	14	14	9	13	14	15	9	13	14	15	8	13	14	14	2	2	1	1
SAL ISLAND TO SAN JUAN																									2459 N.MI.
55,000	-56.5	-75	-19	-17	-16	-75	-19	-17	-16	-73	-16	-15	-14	-76	-20	-18	-17	-75	-18	-16	-15	3	3	2	3
40,000	-56.5	-54	2	4	5	-55	1	3	5	-55	2	3	4	-54	3	4	5	-54	2	3	4	3	3	2	2
30,000	-44.5	-36	9	10	11	-34	10	11	12	-34	10	12	12	-31	12	13	14	-34	10	12	13	2	2	2	2
20,000	-21.2	-9	12	13	14	-8	13	14	15	-7	14	15	16	-6	15	16	17	-8	14	15	16	2	2	2	1
10,000	- 4.6	7	11	13	15	7	12	13	14	9	13	14	15	9	13	14	15	8	12	14	14	2	2	1	1
SAN FRANCISCO TO SONDRESTROMFJORD																									2025 N.MI.
55,000	-56.5	-57	-1	3	5	-52	5	8	9	-51	6	8	9	-56	1	1	4	-54	3	5	7	6	4	3	3
40,000	-56.5	-56	1	5	7	-55	4	8	10	-50	6	9	11	-55	4	7	9	-55	4	7	9	6	6	6	5
30,000	-44.5	-54	-9	-6	-5	-50	-5	-3	-1	-42	2	4	6	-47	-1	0	2	-48	-4	-0	1	4	4	3	4
20,000	-21.2	-14	-13	-9	-6	-28	-7	-5	-1	-16	5	7	9	-24	-3	1	3	-26	-4	-0	2	6	5	4	6
10,000	- 4.6	-20	-16	-11	-9	-13	-8	-5	-5	0	5	7	8	-9	-5	-1	2	-11	-6	-1	1	7	6	4	6
SAN FRANCISCO TO TAHITI																									3650 N.MI.
55,000	-56.5	-76	-20	-18	-17	-74	-18	-16	-15	-73	-17	-15	-14	-74	-17	-15	-14	-75	-18	-16	-15	3	3	3	3
40,000	-56.5	-55	2	4	6	-55	1	4	5	-54	2	3	4	-54	2	4	5	-55	2	4	4	4	3	2	2
30,000	-44.5	-36	9	10	11	-35	9	11	11	-34	11	12	13	-34	10	12	13	-35	10	11	12	3	2	2	2
20,000	-21.2	-9	12	14	15	-9	12	11	14	-7	14	15	16	-7	14	15	16	-8	13	15	15	2	2	2	2
10,000	- 4.6	7	12	13	14	7	12	11	14	9	14	15	16	9	13	15	15	8	13	14	15	2	2	2	2
SAN FRANCISCO TO TOKYO																									4471 N.MI.
55,000	-56.5	-55	4	7	9	-54	3	6	8	-55	2	4	5	-57	-0	3	4	-55	2	6	8	5	5	4	4
40,000	-56.5	-52	5	9	12	-54	2	7	9	-51	5	8	10	-55	4	7	9	-52	4	7	9	6	6	5	5
30,000	-44.5	-46	-2	1	3	-45	-1	2	3	-37	8	11	12	-41	3	6	7	-45	2	6	8	4	4	4	4
20,000	-21.2	-24	-3	0	2	-22	-1	3	5	-11	11	13	14	-19	2	6	8	-19	2	6	9	5	5	4	5
10,000	- 4.6	-9	-5	-1	0	-8	-5	-0	1	4	9	11	12	-4	1	4	5	-4	0	4	6	5	5	3	4
SAN FRANCISCO TO TORONTO																									1957 N.MI.
55,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-62	-5	-3	-2	-63	-6	-4	-2	-61	-4	-1	0	4	4	3	4
40,000	-56.5	-56	0	3	7	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	1	3	5	7	6	3	4
30,000	-44.5	-49	-4	-2	-1	-46	-2	0	2	-36	8	10	11	-42	3	5	6	-43	1	5	6	4	3	3	3
20,000	-21.2	-25	-3	1	3	-20	1	4	5	-9	12	14	15	-15	6	9	11	-17	4	7	9	6	4	3	4
10,000	- 4.6	-9	-5	-1	2	-1	1	5	7	9	14	16	17	1	6	10	11	-1	4	8	10	6	5	3	5
SAN FRANCISCO TO VANCOUVER																									694 N.MI.
55,000	-56.5	-59	-3	0	2	-57	-0	3	4	-58	-2	0	1	-61	-5	-2	-1	-59	-2	1	2	5	4	3	4
40,000	-56.5	-57	-1	4	6	-57	-0	4	6	-54	2	5	6	-56	1	4	5	-56	0	3	5	7	6	4	5
30,000	-44.5	-48	-4	-1	0	-46	-1	1	2	-39	6	8	9	-42	3	5	6	-44	1	4	5	4	3	3	4
20,000	-21.2	-23	-2	2	5	-21	0	3	5	-11	10	12	13	-16	5	8	10	-18	3	7	9	6	5	3	5
10,000	- 4.6	-8	-3	1	3	-5	-0	3	5	7	11	13	14	-0	4	8	9	-2	3	7	9	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
SAN FRANCISCO TO WHITEHORSE																									1466 N.MI.
53,000	-56.5	-56	0	3	5	-54	3	6	7	-54	3	5	6	-57	-1	2	3	-55	1	4	5	5	4	3	4
40,000	-56.5	-56	1	5	8	-55	2	6	8	-53	4	7	8	-54	2	5	7	-54	2	6	7	7	6	4	5
30,000	-44.5	-50	-5	-2	-1	-48	-3	-1	0	-41	3	6	7	-44	0	3	4	-46	-1	2	4	4	3	3	4
20,000	-21.2	-26	-5	-1	1	-24	-3	1	2	-14	8	10	11	-20	1	5	6	-21	0	4	6	6	5	3	5
10,000	- 4.6	-11	-6	-2	1	-8	-4	-1	1	3	7	9	11	-4	1	4	5	-5	-0	3	5	6	4	3	5
SAN FRANCISCO TO WINNIPEG																									1305 N.MI.
53,000	-56.5	-59	-3	1	2	-57	-0	2	4	-59	-3	-1	0	-61	-5	-2	-1	-59	-3	0	2	5	4	3	4
40,000	-56.5	-56	0	5	7	-57	-0	3	5	-54	2	5	6	-56	0	4	5	-56	1	3	5	7	6	3	5
30,000	-44.5	-50	-5	-3	-2	-47	-3	-1	1	-38	7	9	10	-43	2	4	6	-44	0	3	5	4	3	3	4
20,000	-21.2	-26	-5	-0	2	-21	0	3	5	-10	11	13	14	-17	4	8	9	-19	3	6	8	7	4	3	5
10,000	- 4.6	-11	-6	-2	1	-4	0	4	6	9	13	15	17	-0	4	8	10	-2	3	7	10	7	5	3	6
SAN JUAN TO SANTA MARIA																									2413 N.MI.
53,000	-56.5	-69	-13	-10	-9	-68	-11	-9	-8	-67	-11	-9	-8	-71	-14	-12	-11	-69	-12	-10	-9	3	3	3	3
40,000	-56.5	-57	-0	3	4	-57	-1	2	3	-55	1	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-41	4	6	7	-39	6	7	8	-35	9	11	11	-35	9	11	12	-37	7	9	10	3	2	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-8	13	14	15	-9	13	14	15	-10	11	13	14	3	3	2	2
10,000	- 4.6	1	8	10	11	3	8	10	11	7	12	13	14	7	11	13	13	5	10	11	12	3	3	2	2
SAN JUAN TO SANTIAGO																									3128 N.MI.
53,000	-56.5	-75	-19	-17	-16	-75	-18	-16	-15	-70	-13	-11	-10	-72	-16	-14	-12	-73	-17	-14	-12	3	3	3	3
40,000	-56.5	-53	3	5	6	-53	4	6	7	-53	3	5	6	-54	3	4	5	-53	3	5	7	3	3	3	2
30,000	-44.5	-33	11	13	14	-32	12	14	15	-35	10	12	12	-32	12	14	15	-33	11	13	14	2	2	2	2
20,000	-21.2	-6	15	17	17	-6	15	16	17	-10	11	12	13	-7	14	16	16	-7	14	15	16	2	2	2	2
10,000	- 4.6	9	14	15	16	8	13	14	15	6	11	12	13	8	13	14	15	8	13	14	15	2	2	2	2
SANTA MARIA TO ZURICH																									1609 N.MI.
53,000	-56.5	-59	-3	1	2	-57	-0	3	4	-57	-1	2	1	-61	-4	-2	-0	-58	-2	1	3	5	4	4	4
40,000	-56.5	-58	-2	2	4	-58	-2	2	4	-54	3	6	7	-57	-0	3	4	-57	-0	3	5	6	6	4	4
30,000	-44.5	-47	-3	-1	1	-45	-1	2	3	-38	7	9	10	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-22	-1	2	4	-19	2	5	6	-11	10	12	13	-15	6	9	10	-17	4	7	9	5	4	3	4
10,000	- 4.6	-5	-1	3	4	-2	2	5	6	5	9	11	12	1	5	8	9	-1	4	7	9	5	4	3	4
SAN SALVADOR TO TEGUCIGALPA																									938 N.MI.
53,000	-56.5	-76	-20	-18	-17	-75	-18	-17	-16	-72	-16	-15	-14	-77	-21	-19	-18	-75	-19	-17	-16	3	3	2	3
40,000	-56.5	-55	2	3	4	-54	2	4	4	-56	0	1	2	-54	2	4	4	-55	2	3	4	2	2	1	2
30,000	-44.5	-36	9	10	11	-34	10	11	12	-33	11	12	13	-32	12	13	14	-34	11	12	13	2	2	1	2
20,000	-21.2	-8	13	15	15	-7	14	16	16	-7	15	15	16	-6	15	16	17	-7	14	16	16	2	2	1	1
10,000	- 4.6	7	12	13	14	8	13	14	15	9	14	14	15	9	14	15	15	8	13	14	15	2	2	1	1
SANTIAGO TO SAO PAULO																									1395 N.MI.
53,000	-56.5	-68	-12	-9	-8	-67	-11	-8	-7	-61	-5	-2	-0	-62	-6	-3	-2	-65	-8	-5	-3	4	4	4	4
40,000	-56.5	-53	4	7	8	-54	2	5	7	-52	5	7	9	-54	3	5	7	-53	3	6	8	4	5	4	4
30,000	-44.5	-37	8	10	11	-37	7	10	11	-41	3	6	7	-37	8	10	11	-38	7	9	10	3	5	3	4
20,000	-21.2	-8	13	15	16	-11	10	12	13	-17	4	7	8	-10	11	13	14	-12	9	12	14	3	3	3	3
10,000	- 4.6	8	13	15	16	5	10	12	13	0	5	7	8	4	9	11	12	4	9	12	13	3	3	3	3
SANTIAGO TO TAHITI																									4283 N.MI.
53,000	-56.5	-67	-11	-8	-7	-67	-11	-8	-7	-62	-6	-3	-2	-61	-5	-2	-0	-64	-8	-5	-3	3	3	4	4
40,000	-56.5	-54	2	5	7	-56	1	4	5	-52	4	7	8	-54	3	5	7	-54	3	5	7	4	4	4	4
30,000	-44.5	-37	7	9	10	-38	4	8	9	-42	2	5	6	-39	5	8	9	-39	5	8	9	3	3	4	4
20,000	-21.2	-11	10	12	13	-11	8	10	11	-18	3	5	6	-13	9	11	12	-14	8	10	11	3	3	3	3
10,000	- 4.6	6	10	12	13	5	9	11	12	-1	4	6	7	1	6	8	9	3	7	10	11	2	3	3	3
SANTIAGO TO USHUAIA																									1283 N.MI.
53,000	-56.5	-54	2	5	6	-57	-1	2	3	-57	-1	2	4	-55	1	5	7	-56	1	4	5	4	4	4	5
40,000	-56.5	-52	4	8	10	-55	1	5	7	-55	2	5	7	-55	2	5	7	-54	2	6	8	5	5	5	5
30,000	-44.5	-43	2	4	4	-44	1	3	4	-50	-6	-3	-2	-45	-1	2	3	-46	-1	2	4	4	4	4	4
20,000	-21.2	-17	4	7	9	-20	1	4	6	-26	-5	-2	-1	-20	2	5	6	-21	1	4	6	4	4	4	4
10,000	- 4.6	1	5	8	9	-4	1	4	5	-8	-4	-2	-0	-6	-1	1	3	-4	0	4	6	4	4	3	4
SAPPORO TO TOKYO																									458 N.MI.
53,000	-56.5	-52	4	8	9	-57	-0	3	5	-60	-3	0	2	-59	-2	1	3	-57	-0	4	6	5	5	5	5
40,000	-56.5	-49	7	11	13	-54	3	6	8	-48	8	11	13	-51	5	8	10	-51	6	9	11	5	6	4	5
30,000	-44.5	-46	-2	1	3	-42	2	6	7	-29	16	19	21	-37	8	10	12	-39	6	11	14	5	5	5	4
20,000	-21.2	-28	-7	-3	-1	-19	2	6	8	-5	16	18	19	-15	6	9	11	-17	5	9	11	5	5	3	5
10,000	- 4.6	-15	-10	-7	-5	-5	-0	3	4	9	14	16	17	-1	4	7	8	-3	2	6	9	5	5	3	4
SEATTLE TO SHEMYA																									2387 N.MI.
53,000	-56.5	-50	6	10	12	-51	4	9	10	-50	7	9	10	-52	4	7	8	-51	6	8	10	5	4	3	4
40,000	-56.5	-53	4	8	10	-52	5	9	11	-51	5	9	11	-52	4	8	9	-52	4	8	10	6	6	5	5
30,000	-44.5	-50	-5	-3	-1	-49	-5	-2	-1	-42	3	6	7	-47	-2	0	2	-47	-2	1	3	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-27	-6	-3	-1	-15	6	9	10	-24	-3	1	2	-24	-2	2	4	6	5	4	5
10,000	- 4.6	-13	-8	-4	-2	-13	-8	-5	-3	-0	4	7	8	-8	-4	-1	1	-8	-4	0	2	6	5	3	4
SEATTLE TO STOCKHOLM																									4086 N.MI.
53,000	-56.5	-59	-2	1	3	-49	8	11	12	-45	11	13	14	-53	3	5	7	-51	5	8	10	6	4	3	3
40,000	-56.5	-58	-1	1	5	-50	7	10	12	-47	10	13	14	-52	4	8	9	-52	5	9	11	6	6	5	5
30,000	-44.5	-56	-12	-9	-7	-52	-7	-4	-2	-45	-0	2	3	-50	-6	-3	-1	-51	-6	-3	-1	4	4	4	4
20,000	-21.2	-36	-15	-11	-9	-12	-11	-8	-6	-20	1	4	5	-28	-7	-3	-2	-29	-8	-3	-1	6	5	4	5
10,000	- 4.6	-22	-17	-13	-11	-17	-13	-9	-7	-4	0	3	4	-13	-9	-5	-3	-14	-10	-5	-3	6	5	4	5
SEATTLE TO TOKYO																									4161 N.MI.
53,000	-56.5	-50	6	10	12	-52	5	8	9	-52	4	7	8	-54	3	6	7	-52	5	8	11	5	4	4	4
40,000	-56.5	-52	5	9	11	-52	4	8	10	-50	6	10	11	-52	4	8	10	-52	5	9	11	6	6	5	5
30,000	-44.5	-49	-5	-2	-0	-48	-3	-0	1	-38	6	9	11	-44	0	3	5	-45	-0	4	6	4	4	4	4
20,000	-21.2	-28	-7	-1	-1	-25	-4	-0	2	-12	9	11	13	-22	-1	3	4	-22	-1	4	6	6	5	4	5
10,000	- 4.6	-13	-8	-5	-3	-11	-6	-3	-1	2	7	9	10	-7	-2	1	2	-7	-3	2	4	5	5	3	4
SEATTLE TO TORONTO																									1784 N.MI.
53,000	-56.5	-57	-1	2	4	-55	1	4	5	-57	-0	2	4	-59	-3	-0	1	-57	-1	2	4	5	4	3	4
40,000	-56.5	-55	1	6	8	-55	1	5	7	-54	3	6	7	-56	1	4	6	-55	2	5	6	6	6	4	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	-0	-38	6	8	10	-44	1	3	5	-45	-1	3	5	4	3	3	4
20,000	-21.2	-29	-8	-3	-1	-23	-2	2	3	-12	9	12	13	-19	3	6	8	-20	1	5	7	7	5	3	5
10,000	- 4.6	-15	-10	-5	-2	-7	-3	1	3	5	10	12	13	-2	2	6	8	-5	-0	4	7	7	5	4	6

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY				APRIL				JULY				OCTOBER				ANNUAL				STANDARD DEVIATION			
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
SEATTLE TO VANCOUVER																									109 N.MI.
53,000	-56.5	-57	-0	3	5	-54	3	5	7	-54	3	5	6	-58	-2	1	2	-56	1	4	5	5	4	3	4
40,000	-56.5	-56	0	5	7	-55	1	5	8	-53	3	6	8	-56	1	4	6	-55	1	5	7	7	6	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	0	-40	4	6	8	-44	1	3	5	-46	-1	2	4	4	3	3	4
20,000	-21.2	-27	-6	-1	2	-23	-2	1	3	-13	8	10	11	-20	2	5	7	-21	0	4	6	7	5	3	5
10,000	-4.6	-12	-7	-3	-0	-8	-3	0	2	3	8	10	11	-4	1	4	6	-5	-0	4	6	7	5	3	5
SEATTLE TO WINNIPEG																									1000 N.MI.
55,000	-56.5	-57	-0	3	5	-54	2	5	6	-54	2	4	5	-58	-2	1	2	-56	1	4	5	5	4	3	4
40,000	-56.5	-55	1	5	8	-55	1	5	7	-53	3	6	8	-56	1	4	6	-55	2	5	7	4	4	4	5
30,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-1	-40	5	7	8	-45	-0	2	4	-46	-2	2	4	4	3	3	4
20,000	-21.2	-30	-9	-4	-1	-23	-2	1	3	-13	8	10	11	-20	1	5	7	-22	-0	4	4	7	5	3	5
10,000	-4.6	-16	-11	-5	-3	-8	-3	1	3	4	9	12	13	-4	1	5	7	-6	-1	4	4	8	5	4	4
SEOUL TO TAIPEI																									797 N.MI.
51,000	-56.5	-63	-7	-3	-1	-65	-9	-6	-4	-66	-10	-6	-4	-65	-9	-5	-3	-65	-8	-5	-2	5	5	5	5
40,000	-56.5	-51	5	8	9	-55	3	4	6	-48	8	11	12	-52	5	7	9	-51	5	9	10	4	4	4	4
30,000	-44.5	-39	6	8	10	-37	7	10	12	-27	17	20	21	-33	12	14	16	-34	10	14	16	4	4	4	4
20,000	-21.2	-18	3	6	7	-13	9	11	13	-4	17	19	20	-10	11	13	15	-11	10	13	15	4	4	3	4
10,000	-4.6	-6	-1	2	3	1	5	8	9	11	16	17	18	4	9	11	12	2	7	10	12	4	4	2	3
SEOUL TO TOKYO																									636 N.MI.
55,000	-56.5	-55	1	5	7	-59	-3	1	2	-61	-5	-1	1	-61	-4	-1	1	-59	-3	2	4	5	5	5	5
40,000	-56.5	-50	7	10	12	-54	3	6	8	-47	9	12	13	-52	5	8	10	-51	6	9	11	5	5	4	4
30,000	-44.5	-44	0	3	5	-40	4	7	9	-27	17	20	22	-35	9	12	14	-37	8	12	15	5	5	4	4
20,000	-21.2	-25	-4	-1	1	-17	4	8	9	-4	17	19	20	-13	6	11	13	-15	6	11	13	5	5	3	5
10,000	-4.6	-12	-6	-4	-2	-5	1	4	6	10	15	17	18	1	6	8	10	-1	4	8	10	5	5	3	4
SHANGHAI TO TOKYO																									950 N.MI.
55,000	-56.5	-60	-3	0	3	-63	-6	-3	-1	-64	-8	-4	-2	-63	-7	-3	-1	-62	-6	-2	1	4	5	5	5
40,000	-56.5	-50	7	10	11	-54	3	6	8	-48	9	11	13	-52	5	8	9	-51	6	9	11	5	5	4	4
30,000	-44.5	-41	4	7	9	-38	6	9	11	-27	17	20	21	-31	11	14	15	-35	10	14	16	5	5	4	4
20,000	-21.2	-21	0	3	5	-14	7	10	12	-4	17	19	20	-11	11	13	15	-12	9	12	14	4	4	3	4
10,000	-4.6	-8	-4	-0	1	-1	4	6	8	11	15	17	18	3	8	10	12	1	6	9	11	5	4	2	4
SHEMYA TO TOKYO																									1775 N.MI.
55,000	-56.5	-50	7	10	12	-53	4	7	8	-55	1	4	6	-55	2	5	6	-53	3	7	10	5	4	4	4
40,000	-56.5	-50	7	10	12	-53	4	6	10	-46	7	10	12	-52	5	8	10	-51	6	9	11	5	6	5	5
30,000	-44.5	-49	-4	-1	0	-46	-1	2	3	-36	11	14	16	-42	3	6	7	-43	2	7	9	5	5	5	4
20,000	-21.2	-28	-7	-4	-2	-22	-1	2	4	-9	12	15	16	-20	2	5	7	-20	1	6	6	5	5	3	5
10,000	-4.6	-14	-10	-6	-4	-9	-4	-1	1	5	10	12	13	-5	-1	2	4	-6	-1	3	6	5	5	3	4
SHEMYA TO VANCOUVER																									2305 N.MI.
55,000	-56.5	-50	7	11	13	-50	6	9	10	-49	7	9	11	-52	4	7	9	-50	6	9	10	6	4	3	4
40,000	-56.5	-53	4	8	10	-52	5	9	11	-51	6	9	11	-52	4	8	10	-52	5	6	10	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-49	-5	-2	-1	-42	3	5	7	-47	-3	0	2	-47	-3	1	3	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-28	-7	-3	-1	-15	6	9	10	-25	-3	0	2	-24	-3	2	4	6	5	4	5
10,000	-4.6	-13	-8	-5	-2	-13	-8	-5	-4	-0	4	4	8	-9	-4	-1	0	-9	-4	-0	2	6	4	3	4
SHEMYA TO WHITEHORSE																									1693 N.MI.
55,000	-56.5	-49	8	12	14	-49	8	10	12	-48	9	11	12	-50	6	9	10	-49	8	10	11	6	4	3	4
40,000	-56.5	-53	4	8	10	-50	6	10	12	-50	7	10	12	-52	5	8	10	-51	5	9	11	6	5	5	5
30,000	-44.5	-52	-7	-5	-3	-51	-7	-4	-3	-43	2	5	6	-50	-5	-2	-1	-49	-4	-0	2	4	4	4	4
20,000	-21.2	-31	-9	-5	-3	-30	-9	-5	-3	-16	5	7	9	-27	-6	-2	-1	-28	-5	-0	2	6	5	4	5
10,000	-4.6	-15	-11	-6	-4	-15	-10	-7	-6	-1	1	5	7	-11	-7	-4	-2	-11	-6	-2	0	6	4	3	4
SINGAPORE TO SOERABAYA																									736 N.MI.
55,000	-56.5	-83	-26	-24	-23	-80	-24	-22	-21	-78	-22	-20	-19	-80	-24	-22	-21	-80	-24	-22	-20	3	3	3	3
40,000	-56.5	-54	2	3	4	-52	5	6	7	-54	2	3	4	-54	2	3	4	-54	3	4	5	2	2	2	2
30,000	-44.5	-31	14	15	15	-31	14	15	16	-11	13	14	15	-32	13	14	14	-31	13	15	15	2	2	2	1
20,000	-21.2	-5	17	17	18	-5	16	17	17	-5	16	16	17	-6	15	16	17	-5	16	17	17	1	1	1	1
10,000	-4.6	10	14	15	15	10	15	15	16	7	13	14	15	9	14	15	15	9	14	15	16	1	1	1	1
SINGAPORE TO SYDNEY																									3397 N.MI.
51,000	-56.5	-78	-21	-19	-18	-75	-19	-16	-15	-73	-17	-14	-13	-74	-17	-15	-14	-75	-18	-16	-15	3	3	3	3
40,000	-56.5	-54	3	5	6	-53	1	5	6	-54	3	4	5	-54	1	5	9	-54	3	5	6	3	2	3	3
30,000	-44.5	-31	12	13	14	-34	10	12	12	-16	9	11	12	-35	9	11	12	-35	10	12	13	2	2	3	2
20,000	-21.2	-7	14	16	16	-9	11	14	15	-11	11	12	13	-10	11	11	14	-9	12	14	15	2	2	2	2
10,000	-4.6	9	14	15	16	7	12	11	14	5	9	11	12	6	11	12	11	7	11	13	14	2	2	2	2
SINGAPORE TO TAIPEI																									1748 N.MI.
55,000	-56.5	-79	-23	-20	-17	-78	-22	-20	-19	-77	-20	-18	-17	-77	-21	-18	-17	-78	-21	-19	-17	3	3	4	3
40,000	-56.5	-54	2	4	5	-52	5	6	7	-53	3	5	5	-54	3	4	5	-53	3	5	6	2	2	2	2
30,000	-44.5	-31	13	15	15	-30	14	15	16	-10	14	16	16	-31	14	15	16	-31	14	15	16	2	2	2	2
20,000	-21.2	-6	15	16	17	-5	16	18	18	-5	17	17	18	-6	16	17	17	-5	16	17	17	2	2	1	2
10,000	-4.6	6	13	14	15	10	14	15	16	10	15	16	16	9	14	15	15	9	14	15	15	2	2	1	1
SINGAPORE TO TANANARIVE																									3562 N.MI.
55,000	-56.5	-80	-23	-21	-20	-77	-20	-18	-17	-76	-18	-16	-15	-77	-20	-18	-17	-77	-20	-18	-16	3	3	3	3
40,000	-56.5	-53	3	5	6	-52	4	6	7	-53	3	5	6	-54	3	4	5	-53	3	5	6	3	2	2	2
30,000	-44.5	-30	14	15	16	-31	13	14	15	-32	12	14	15	-33	11	13	13	-32	13	14	15	2	2	2	2
20,000	-21.2	-5	16	17	18	-6	15	16	17	-6	15	17	17	-7	15	16	16	-6	15	16	17	1	1	2	2
10,000	-4.6	9	14	15	15	9	14	15	15	7	12	13	14	9	13	14	15	9	13	14	15	1	1	2	2
SINGAPORE TO TOKYO																									2859 N.MI.
55,000	-56.5	-76	-18	-15	-14	-76	-18	-15	-14	-73	-17	-14	-13	-73	-17	-14	-13	-76	-17	-15	-13	4	4	4	4
40,000	-56.5	-53	4	6	7	-52	4	6	7	-52	5	7	8	-53	3	5	6	-53	4	6	7	3	3	3	3
30,000	-44.5	-13	12	14	15	-32	12	14	15	-29	15	17	17	-31	14	15	16	-31	13	15	16	3	3	2	2
20,000	-21.2	-9	12	13	14	-7	14	16	17	-4	17	18	18	-6	15	16	17	-7	14	16	17	2	2	2	2
10,000	-4.6	4	9	11	11	7	12	14	14	11	15	16	17	7	13	14	15	8	12	14	15	2	2	1	2
SONDRESTROMFJORD TO WINNIPEG																									1721 N.MI.
55,000	-56.5	-57	-0	4	6	-49	7	10	11	-47	9	11	13	-53	4	6	7	-52	5	8	10	6	4	3	3
40,000	-56.5	-55	2	6	8	-50	6	10	12	-48	8	11	13	-51	6	9	11	-51	5	9	11	6	6	5	5
30,000	-44.5	-55	-11	-8	-7	-51	-7	-4	-2	-44	1	3	5	-49	-5	-2	0	-50	-5	-2	0	4	4	4	5
20,000	-21.2	-38	-17	-13	-11	-31	-10	-6	-4	-19	2	5	7	-27	-6	-2	1	-29	-8	-3	0	6	6	4	6
10,000	-4.6	-25	-20	-16	-14	-17	-12	-8	-6	-4	1	4	5	-13	-8	-4	-1	-15	-10	-5	-2	7	6	4	7

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
SPLIT TO ZAGREB																						125 N.MI.			
53,000	-56.5	-56	1	4	6	-55	1	4	5	-54	2	5	6	-59	-3	-0	1	-56	0	3	5	5	4	3	4
40,000	-56.5	-58	-1	2	4	-57	-1	3	4	-51	6	8	10	-56	0	3	4	-56	1	5	6	5	5	4	4
30,000	-44.5	-51	-6	-4	-2	-47	-3	0	1	-38	6	9	10	-43	2	5	6	-45	-0	3	5	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-21	0	3	4	-12	9	11	12	-17	5	7	9	-19	2	6	7	5	4	3	4
10,000	-4.8	-10	-6	-3	-1	-5	-1	2	4	4	8	10	12	-1	3	6	7	-3	1	5	7	5	4	3	4
STANLEYVILLE TO TANANARIVE																						1768 N.MI.			
53,000	-56.5	-77	-20	-18	-17	-76	-20	-17	-16	-72	-16	-14	-13	-75	-18	-16	-15	-75	-19	-16	-15	3	4	3	3
40,000	-56.5	-52	4	6	7	-52	5	7	8	-52	5	6	7	-52	4	6	7	-52	4	6	7	3	3	2	2
30,000	-44.5	-30	14	16	16	-31	14	15	16	-33	12	13	14	-32	13	14	15	-31	13	15	15	2	2	2	2
20,000	-21.2	-5	17	17	18	-5	16	17	18	-6	15	17	17	-6	15	16	17	-5	16	17	17	1	2	2	2
10,000	-4.8	10	14	15	16	9	14	15	16	7	12	13	14	10	14	15	16	9	14	15	15	1	2	2	2
STANLEYVILLE TO TUNIS																						2332 N.MI.			
51,000	-56.5	-72	-16	-14	-13	-71	-15	-13	-12	-74	-17	-15	-14	-73	-17	-15	-14	-72	-16	-14	-13	3	3	3	3
40,000	-56.5	-54	2	4	6	-53	3	6	7	-51	5	7	7	-53	3	5	6	-53	4	5	6	3	4	2	2
30,000	-44.5	-39	6	7	8	-16	10	11	12	-31	14	15	16	-34	11	12	13	-34	10	12	13	2	2	2	2
20,000	-21.2	-12	10	11	12	-8	12	13	14	-5	16	17	18	-8	13	14	15	-9	13	14	15	2	2	2	1
10,000	-4.8	5	10	11	12	7	12	13	14	12	16	17	18	8	13	14	15	8	13	15	16	2	2	2	2
STOCKHOLM TO TEL AVIV-JAFFA																						1793 N.MI.			
53,000	-56.5	-57	-1	2	4	-55	1	4	5	-55	1	3	5	-59	-2	0	1	-57	-0	2	4	4	3	3	4
40,000	-56.5	-57	-1	2	4	-55	1	5	7	-49	8	11	12	-56	1	3	5	-54	2	6	8	5	5	4	4
30,000	-44.5	-51	-7	-4	-1	-47	-3	-0	1	-37	8	10	12	-43	2	4	5	-44	0	4	6	4	4	4	4
20,000	-21.2	-24	-5	-2	-0	-22	-0	3	5	-11	10	12	13	-17	4	7	8	-19	2	6	8	5	5	3	4
10,000	-4.8	-11	-7	-3	-2	-5	-0	3	4	4	9	10	11	-2	3	6	7	-4	1	5	6	5	5	3	4
STOCKHOLM TO TOKYO																						4407 N.MI.			
51,000	-56.5	-55	1	5	7	-50	7	10	11	-47	9	12	13	-53	4	6	8	-51	5	9	10	5	4	4	4
40,000	-56.5	-57	-0	1	5	-50	6	10	13	-48	8	12	14	-52	5	8	10	-52	5	9	11	5	6	5	5
30,000	-44.5	-55	-10	-8	-6	-46	-5	-1	0	-37	8	11	13	-47	-2	1	2	-47	-2	3	6	4	5	5	5
20,000	-21.2	-35	-14	-11	-9	-28	-7	-3	-1	-13	8	11	13	-24	-3	1	3	-25	-4	1	4	5	6	4	6
10,000	-4.8	-22	-17	-14	-12	-14	-9	-5	-1	2	6	8	10	-10	-6	-2	-0	-11	-7	-1	1	6	6	4	5
STOCKHOLM TO VIENNA																						644 N.MI.			
51,000	-56.5	-57	-0	1	5	-51	3	6	7	-48	8	10	11	-57	-0	2	4	-54	3	6	8	5	4	3	4
40,000	-56.5	-59	-2	1	1	-54	2	6	6	-50	6	10	11	-56	1	4	5	-55	2	6	8	5	6	5	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-41	3	6	7	-45	-0	2	4	-47	-2	1	3	4	4	4	4
20,000	-21.2	-26	-8	-4	-2	-24	-3	0	2	-15	6	8	10	-20	2	5	7	-22	-1	3	5	6	5	3	5
10,000	-4.8	-14	-10	-6	-1	-6	-4	-1	1	1	5	7	8	-5	-1	1	5	-7	-2	1	3	6	5	3	5
STOCKHOLM TO WARSAW																						440 N.MI.			
53,000	-56.5	-57	-0	1	5	-53	4	6	8	-47	9	11	12	-56	0	3	4	-53	3	7	8	5	4	3	4
40,000	-56.5	-59	-2	1	3	-54	1	6	9	-50	7	10	12	-56	1	4	6	-55	2	6	8	5	6	5	5
30,000	-44.5	-53	-8	-6	-4	-50	-5	-3	-1	-41	3	6	7	-46	-1	2	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-10	-9	-5	-3	-25	-4	-0	1	-15	6	8	10	-20	1	4	6	-23	-2	2	4	6	5	3	5
10,000	-4.8	-15	-11	-6	-4	-9	-5	-1	0	-0	5	7	8	-6	-2	2	4	-8	-3	1	3	6	5	3	5
STOCKHOLM TO ZURICH																						803 N.MI.			
53,000	-56.5	-57	-0	1	5	-53	3	6	7	-49	8	10	11	-57	-0	2	3	-54	3	6	8	5	4	3	4
40,000	-56.5	-56	-2	2	4	-55	2	6	8	-51	6	8	11	-56	0	4	6	-55	1	6	8	5	6	5	5
30,000	-44.5	-52	-7	-5	-1	-49	-4	-2	-0	-41	3	6	7	-45	-0	2	4	-47	-2	1	3	4	4	4	4
20,000	-21.2	-26	-8	-4	-2	-24	-1	0	2	-15	6	8	10	-19	2	5	7	-22	-1	3	5	6	5	3	5
10,000	-4.8	-13	-8	-5	-2	-8	-3	-0	1	1	5	7	8	-5	-0	3	5	-6	-2	2	4	6	5	3	5
SYDNEY TO TAHITI																						3301 N.MI.			
51,000	-56.5	-70	-11	-11	-10	-69	-11	-10	-9	-64	-8	-6	-4	-63	-7	-5	-3	-67	-10	-7	-6	4	4	3	3
40,000	-56.5	-55	2	4	6	-54	2	4	6	-54	1	5	6	-54	2	5	7	-54	2	5	6	3	3	4	4
30,000	-44.5	-36	8	10	11	-16	6	8	10	-41	3	6	7	-41	4	6	7	-36	5	8	9	3	4	4	3
20,000	-21.2	-10	11	13	14	-13	9	11	12	-16	5	7	8	-15	7	8	10	-13	8	10	11	3	3	3	3
10,000	-4.8	8	11	11	13	5	9	11	12	-0	4	6	7	2	7	9	10	3	8	10	11	2	3	3	3
SYDNEY TO WELLINGTON																						1202 N.MI.			
51,000	-56.5	-63	-6	-3	-2	-61	-4	-2	-0	-57	-0	2	1	-56	1	2	4	-59	-3	0	1	4	4	4	3
40,000	-56.5	-56	0	3	5	-56	1	4	5	-54	2	6	7	-53	4	7	9	-55	2	6	8	4	5	5	5
30,000	-44.5	-61	4	6	7	-45	-0	2	4	-50	-5	-2	-1	-46	-1	1	2	-45	-1	3	4	3	4	4	4
20,000	-21.2	-14	7	10	11	-16	3	5	7	-24	-3	-0	1	-20	1	4	5	-19	2	5	7	3	4	4	4
10,000	-4.8	3	7	10	11	-2	3	5	6	-6	-2	0	2	-3	1	4	5	-2	2	6	7	3	3	3	4
TAIPEI TO TOKYO																						1132 N.MI.			
53,000	-56.5	-65	-8	-4	-3	-66	-10	-6	-5	-67	-10	-7	-5	-66	-9	-6	-4	-66	-6	-5	-3	5	5	5	5
40,000	-56.5	-50	4	9	11	-54	1	6	8	-46	8	10	12	-52	5	7	9	-51	5	9	10	4	4	4	4
30,000	-44.5	-17	8	11	12	-16	8	11	12	-28	17	19	20	-31	13	16	17	-33	12	15	17	4	4	4	3
20,000	-21.2	-16	5	7	9	-11	10	11	14	-4	17	19	20	-8	13	15	16	-10	11	14	16	4	4	2	3
10,000	-4.8	-4	1	1	5	2	7	9	11	11	16	17	18	6	11	13	14	4	8	11	13	4	3	2	3
TEHRAN TO TEL AVIV-JAFFA																						866 N.MI.			
51,000	-56.5	-62	-6	-1	-2	-61	-4	-2	-1	-70	-13	-11	-10	-64	-8	-5	-4	-64	-8	-5	-3	4	3	3	4
40,000	-56.5	-55	2	4	6	-55	2	5	7	-46	11	13	14	-56	1	3	4	-53	4	7	9	4	5	1	3
30,000	-44.5	-46	-2	0	2	-41	2	4	5	-27	18	20	21	-39	5	7	8	-39	6	10	12	3	3	3	3
20,000	-21.2	-21	1	3	4	-16	5	7	8	-3	18	20	21	-13	8	10	11	-13	8	12	14	4	3	3	3
10,000	-4.8	-5	-0	3	4	1	6	8	10	13	18	20	20	5	10	12	13	4	8	12	14	4	4	2	3
TEHRAN TO VIENNA																						1703 N.MI.			
51,000	-56.5	-57	-0	3	4	-56	1	1	4	-57	-1	1	3	-59	-3	-0	1	-57	-1	2	3	4	5	5	4
40,000	-56.5	-57	-0	1	4	-55	1	4	6	-48	9	11	12	-56	0	3	4	-54	2	6	8	5	5	4	4
30,000	-44.5	-50	-6	-1	-2	-46	-1	1	3	-34	10	13	14	-42	2	5	6	-43	1	5	8	4	4	4	4
20,000	-21.2	-26	-4	-1	0	-20	2	5	6	-9	12	14	15	-16	5	8	9	-18	4	7	9	5	4	3	4
10,000	-4.8	-11	-6	-2	-0	-1	1	5	6	6	11	11	14	0	5	7	9	-2	3	6	8	5	4	3	4
TEHRAN TO WARSAW																						1623 N.MI.			
53,000	-56.5	-57	-0	3	5	-55	1	4	5	-55	1	3	5	-59	-2	1	2	-56	0	3	4	4	5	3	4
40,000	-56.5	-57	-1	2	4	-55	1	5	6	-48	8	11	12	-56	1	3	5	-54	3	6	8	5	5	4	4
30,000	-44.5	-51	-6	-4	-3	-46	-1	1	1	-35	9	12	13	-43	2	4	6	-44	1	5	7	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-20	1	4	6	-10	11	14	15	-17	4	7	9	-18	3	7	9	5	5	3	4
10,000	-4.8	-11	-7	-3	-1	-4	1	4	6	5	10	12	13	-1	4	7	8	-3	2	6	8	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE: JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION: JAN	APR	JUL	OCT
TEHERAN TO ZURICH																									2016 N.MI.
55,000	-56.5	-57	-0	3	4	-56	1	3	4	-57	-1	2	3	-59	-3	-0	1	-57	-1	2	3	4	6	3	4
40,000	-56.5	-57	-0	3	4	-56	1	4	6	-49	8	10	12	-56	0	3	4	-54	2	6	8	5	5	6	6
30,000	-44.5	-50	-6	-3	-2	-46	-1	1	3	-35	10	12	13	-42	2	5	6	-43	1	5	7	6	6	6	6
20,000	-21.2	-26	-4	-1	1	-20	1	4	6	-10	12	14	15	-16	5	8	9	-18	3	7	9	5	4	3	6
10,000	- 4.6	-10	-6	-2	-0	-3	1	4	5	6	11	13	14	0	5	7	9	-2	3	6	8	5	6	3	6
TEL AVIV-JAFFA TO TRIPOLI																									1101 N.MI.
55,000	-56.5	-63	-7	-4	-3	-61	-5	-3	-2	-69	-12	-10	-9	-65	-9	-6	-5	-65	-8	-5	-4	3	3	3	3
40,000	-56.5	-55	2	5	6	-56	0	4	5	-48	9	11	12	-56	1	3	4	-54	3	6	8	6	5	3	3
30,000	-44.5	-46	-1	1	2	-42	2	4	5	-30	15	17	18	-39	5	7	8	-39	5	9	11	3	3	3	3
20,000	-21.2	-20	2	4	5	-16	5	7	9	-6	16	17	18	-12	9	10	11	-13	8	11	13	3	3	2	2
10,000	- 4.6	-4	1	3	5	1	6	8	9	11	15	17	18	5	10	11	12	3	8	11	13	3	6	2	3
TEL AVIV-JAFFA TO TUNIS																									1251 N.MI.
55,000	-56.5	-61	-5	-2	-1	-59	-3	-1	0	-67	-10	-8	-7	-63	-7	-5	-3	-63	-6	-3	-2	4	3	3	3
40,000	-56.5	-56	1	4	6	-57	-0	3	5	-48	9	11	12	-56	0	2	4	-54	2	6	7	5	5	3	3
30,000	-44.5	-47	-2	-0	1	-44	1	3	4	-32	13	15	16	-40	4	6	7	-41	4	8	10	3	3	3	3
20,000	-21.2	-21	0	3	4	-17	4	6	8	-7	14	16	17	-13	8	9	10	-15	7	10	12	6	3	2	2
10,000	- 4.6	-5	-0	2	3	-0	4	7	6	10	14	16	17	4	8	10	11	2	7	10	13	4	4	2	3
TEL AVIV-JAFFA TO VIENNA																									1275 N.MI.
55,000	-56.5	-58	-1	1	3	-57	-0	2	3	-60	-4	-2	-1	-61	-4	-2	-1	-59	-2	0	2	4	3	3	3
40,000	-56.5	-56	0	3	5	-56	0	4	5	-48	8	11	12	-56	0	1	4	-54	2	6	8	5	5	3	3
30,000	-44.5	-50	-5	-3	-2	-46	-1	1	2	-34	10	13	14	-42	3	5	6	-43	2	6	8	3	3	3	3
20,000	-21.2	-24	-3	-0	1	-20	1	4	6	-9	12	14	15	-15	6	8	9	-17	4	8	6	6	6	3	3
10,000	- 4.6	-9	-4	-1	0	-3	2	4	6	6	11	13	14	1	6	8	9	-1	3	7	9	4	6	3	3
TEL AVIV-JAFFA TO WARSAW																									1356 N.MI.
55,000	-56.5	-58	-1	2	3	-56	0	3	4	-58	-2	0	1	-60	-4	-1	0	-58	-2	1	3	4	3	3	4
40,000	-56.5	-57	-0	3	4	-56	1	4	6	-48	8	11	12	-56	0	1	4	-54	2	6	8	5	5	4	4
30,000	-44.5	-50	-6	-1	-2	-46	-2	1	2	-35	10	12	13	-42	2	5	6	-43	1	5	7	3	4	3	3
20,000	-21.2	-25	-4	-1	1	-20	1	4	5	-10	11	13	14	-16	5	8	9	-18	3	7	9	5	4	3	4
10,000	- 4.6	-10	-5	-2	-1	-4	1	4	6	5	10	12	13	0	5	7	9	-2	3	6	8	5	4	3	4
TEL AVIV-JAFFA TO ZURICH																									1516 N.MI.
55,000	-56.5	-58	-1	1	3	-57	-0	2	3	-60	-4	-2	-1	-61	-4	-2	-1	-59	-3	0	2	4	3	3	3
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-49	8	10	11	-56	0	3	4	-55	2	5	7	5	5	3	4
30,000	-44.5	-49	-5	-2	-3	-46	-1	1	2	-35	10	12	13	-43	3	5	7	-43	2	6	8	3	4	3	3
20,000	-21.2	-24	-3	0	2	-20	2	4	6	-9	12	14	15	-15	6	8	9	-17	4	8	6	4	4	3	3
10,000	- 4.6	-6	-4	-1	1	-3	2	4	6	6	11	13	14	1	6	8	9	-1	4	7	6	4	4	3	3
THULE TO VANCOUVER																									2067 N.MI.
55,000	-56.5	-57	-1	3	5	-46	6	11	12	-47	10	12	13	-53	3	5	4	-51	5	6	10	6	4	3	3
40,000	-56.5	-57	-0	4	4	-51	6	9	11	-48	8	12	13	-52	4	7	9	-52	5	9	11	6	6	5	4
30,000	-44.5	-56	-12	-9	-7	-52	-7	-5	-3	-45	-0	2	3	-50	-6	-3	-2	-51	-6	-3	-1	4	4	3	4
20,000	-21.2	-38	-16	-12	-10	-32	-11	-8	-6	-20	2	4	4	-29	-7	-4	-2	-30	-8	-4	-1	6	5	4	5
10,000	- 4.6	-24	-20	-15	-13	-16	-13	-10	-8	-4	1	3	5	-14	-9	-6	-4	-15	-10	-5	-3	7	5	4	5
THULE TO WINNIPEG																									1732 N.MI.
55,000	-56.5	-58	-1	3	5	-49	6	11	12	-46	10	12	13	-53	4	4	7	-51	5	8	10	4	4	3	3
40,000	-56.5	-56	1	5	7	-50	6	10	12	-48	9	12	14	-51	6	9	11	-53	5	9	11	6	6	5	5
30,000	-44.5	-57	-12	-10	-8	-52	-7	-4	-3	-45	-0	2	4	-51	-4	-3	-2	-51	-7	-3	-1	4	5	4	4
20,000	-21.2	-40	-18	-15	-13	-34	-12	-9	-7	-20	1	4	4	-29	-8	-4	-2	-31	-6	-4	-3	6	6	6	6
10,000	- 4.6	-27	-22	-18	-16	-19	-15	-11	-9	-5	-0	3	4	-15	-10	-6	-4	-17	-12	-7	-4	4	6	4	6
TOKYO TO VANCOUVER																									4080 N.MI.
55,000	-56.5	-50	7	10	12	-52	5	8	9	-52	5	7	8	-53	3	6	8	-52	5	6	11	5	4	4	4
40,000	-56.5	-52	5	9	11	-52	4	8	11	-50	6	10	12	-52	4	8	10	-51	5	9	13	6	6	5	5
30,000	-44.5	-49	-5	-2	-1	-48	-3	-1	1	-38	6	9	11	-45	-0	3	4	-45	-1	4	6	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-25	-4	-1	1	-12	9	11	13	-22	-1	2	4	-22	-1	4	6	6	5	4	5
10,000	- 4.6	-13	-9	-5	-3	-13	-8	-3	-2	2	7	9	10	-7	-3	0	2	-7	-3	3	4	5	5	3	4
TOKYO TO VIENNA																									4633 N.MI.
55,000	-56.5	-54	3	6	8	-51	6	9	10	-48	8	11	12	-53	3	4	7	-51	5	8	10	5	4	4	4
40,000	-56.5	-57	-0	3	5	-51	5	9	13	-49	8	11	13	-52	4	7	9	-52	4	6	11	5	6	5	5
30,000	-44.5	-54	-9	-7	-5	-48	-4	-1	1	-36	8	12	13	-46	-1	2	4	-46	-2	4	6	4	5	5	5
20,000	-21.2	-33	-12	-8	-6	-26	-5	-1	1	-12	9	12	13	-22	-1	3	5	-23	-2	3	6	6	6	4	6
10,000	- 4.6	-20	-15	-11	-9	-11	-7	-3	-1	3	7	10	11	-8	-4	-0	2	-9	-5	0	3	6	6	4	6
TOKYO TO WAKE ISLAND																									1725 N.MI.
55,000	-56.5	-67	-11	-8	-6	-65	-9	-5	-4	-67	-11	-6	-6	-68	-11	-8	-7	-67	-10	-7	-5	4	4	4	4
40,000	-56.5	-50	7	10	12	-55	2	5	7	-52	5	7	9	-53	4	6	7	-52	4	8	10	5	5	4	3
30,000	-44.5	-34	11	13	15	-36	9	11	12	-30	14	16	17	-31	13	15	16	-33	12	14	14	4	4	3	3
20,000	-21.2	-13	8	10	12	-9	12	14	15	-5	16	18	19	-7	15	17	18	-8	13	15	16	3	3	2	3
10,000	- 4.6	1	5	8	9	5	9	11	13	10	15	16	17	8	13	14	15	6	10	13	14	3	3	2	3
TORONTO TO TRINIDAD																									2201 N.MI.
55,000	-56.5	-71	-14	-12	-11	-69	-13	-11	-9	-68	-12	-10	-9	-72	-15	-13	-12	-70	-13	-11	-10	3	3	2	3
40,000	-56.5	-56	1	3	5	-56	0	3	4	-56	1	2	3	-55	2	4	5	-56	1	3	4	4	3	2	3
30,000	-44.5	-40	5	7	8	-38	6	8	9	-34	10	12	12	-35	9	11	12	-37	8	10	11	3	2	2	3
20,000	-21.2	-13	8	10	11	-12	10	12	13	-8	14	15	15	-9	13	14	15	-10	11	13	14	3	3	2	2
10,000	- 4.6	2	7	9	10	3	8	10	11	8	12	13	14	6	11	13	13	5	9	11	12	3	3	2	2
TORONTO TO VANCOUVER																									1804 N.MI.
55,000	-56.5	-57	-1	3	4	-55	2	4	6	-56	1	3	5	-59	-2	1	2	-56	0	3	4	5	6	3	4
40,000	-56.5	-55	1	4	8	-55	1	5	8	-53	3	6	7	-55	1	5	6	-55	2	5	7	6	6	4	5
30,000	-44.5	-52	-7	-4	-3	-48	-4	-2	-0	-39	6	8	9	-44	0	3	4	-46	-1	2	4	4	3	3	4
20,000	-21.2	-30	-8	-4	-2	-23	-2	1	1	-12	9	11	12	-19	2	6	7	-21	0	4	6	7	5	3	5
10,000	- 4.6	-16	-11	-6	-3	-8	-3	1	3	4	9	11	13	-3	2	6	8	-6	-1	4	6	7	5	4	6
TORONTO TO WINNIPEG																									811 N.MI.
55,000	-56.5	-57	-1	2	4	-55	1	4	5	-56	1	3	4	-58	-2	1	2	-57	-0	3	4	5	4	4	4
40,000	-56.5	-54	2	6	8	-55	2	6	8	-53	4	6	8	-54	2	6	7	-54	2	6	7	6	6	4	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	-0	-38	6	9	10	-44	0	3	4	-46	-1	3	5	4	4	4	4
20,000	-21.2	-30	-9	-5	-3	-24	-3	1	2	-12	9	12	13	-19	2	6	8	-21	-0	4	7	6	5	4	5
10,000	- 4.6	-17	-12	-8	-5	-9	-4	-0	2	3	8	10	12	-3	2	6	8	-6	-2	3	5	7	6	4	6

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
TRIPOLI TO TUNIS																									289 N.MI.
55,000	-56.5	-61	-4	-2	-0	-60	-3	-1	0	-65	-9	-7	-6	-63	-7	-5	-5	-62	-6	-3	-1	4	3	3	3
40,000	-56.5	-56	0	4	4	-56	0	4	5	-49	7	9	10	-56	0	3	4	-54	2	5	7	5	5	3	3
30,000	-44.5	-46	-2	0	1	-44	1	3	4	-34	10	12	13	-40	4	6	7	-41	3	7	9	3	3	3	3
20,000	-21.2	-20	1	3	5	-17	5	7	8	-8	13	15	16	-13	8	10	11	-15	7	10	11	4	3	2	2
10,000	- 4.6	-4	1	3	4	1	5	8	9	10	15	16	17	3	8	10	10	2	7	10	12	4	3	3	3
TUNIS TO VIENNA																									731 N.MI.
55,000	-56.5	-57	-0	3	5	-56	0	3	4	-57	-0	2	3	-60	-4	-1	0	-57	-1	2	3	5	4	3	3
40,000	-56.5	-57	-1	3	4	-57	-1	3	5	-51	6	8	10	-56	0	3	4	-55	1	5	6	5	5	4	4
30,000	-44.5	-49	-5	-2	-1	-46	-2	1	2	-38	7	9	10	-42	3	5	6	-44	1	4	6	4	4	3	4
20,000	-21.2	-25	-3	-0	1	-20	1	4	5	-11	10	12	13	-16	5	8	9	-18	3	7	8	5	4	3	3
10,000	- 4.6	-8	-3	-0	1	-3	1	4	5	6	10	12	13	-0	4	7	8	-2	3	7	8	5	4	3	4
TUNIS TO ZURICH																									690 N.MI.
55,000	-56.5	-57	-1	3	4	-56	0	3	4	-58	-1	1	2	-60	-4	-1	-0	-58	-1	2	3	5	4	3	3
40,000	-56.5	-58	-1	3	5	-57	-1	3	5	-52	5	7	9	-56	0	3	4	-56	1	4	6	5	5	4	4
30,000	-44.5	-49	-4	-2	-0	-46	-2	1	2	-38	7	9	10	-42	3	5	7	-44	1	4	6	4	4	3	4
20,000	-21.2	-24	-3	0	2	-20	2	4	5	-11	10	12	13	-16	6	8	9	-18	4	7	9	5	4	3	3
10,000	- 4.6	-7	-2	1	3	-3	2	4	6	6	11	13	14	0	5	7	8	-1	4	7	9	5	4	3	4
VANCOUVER TO WASHINGTON, D.C.																									2049 N.MI.
55,000	-56.5	-58	-2	1	3	-56	0	3	4	-58	-1	1	2	-60	-4	-1	0	-58	-2	1	3	5	4	3	4
40,000	-56.5	-56	1	5	7	-56	0	4	7	-54	3	5	7	-56	1	4	6	-55	1	4	6	6	6	4	5
30,000	-44.5	-50	-6	-3	-2	-47	-3	-1	1	-38	7	9	10	-45	1	4	5	-45	-0	3	5	4	3	3	4
20,000	-21.2	-27	-6	-2	0	-22	-0	3	4	-11	10	12	13	-17	4	7	9	-19	2	6	8	6	5	3	5
10,000	- 4.6	-13	-8	-4	-1	-6	-1	2	4	6	10	12	14	-1	3	7	9	-4	1	5	7	7	5	3	6
VANCOUVER TO WHITEHORSE																									802 N.MI.
55,000	-56.5	-56	2	4	8	-51	5	8	10	-50	7	9	10	-54	2	5	7	-52	4	7	8	5	4	3	4
40,000	-56.5	-55	2	4	9	-53	4	8	10	-51	5	8	10	-53	3	6	8	-53	3	7	9	6	6	5	5
30,000	-44.5	-52	-7	-4	-3	-49	-5	-3	-1	-43	1	4	5	-47	-2	1	2	-48	-3	0	2	4	3	4	4
20,000	-21.2	-30	-9	-5	-2	-27	-5	-2	-0	-16	5	8	9	-23	-2	2	4	-24	-3	1	3	7	5	4	5
10,000	- 4.6	-15	-10	-5	-3	-11	-6	-4	-2	-1	4	6	8	-7	-3	0	2	-8	-4	0	2	7	4	3	5
VANCOUVER TO WINNIPEG																									1006 N.MI.
55,000	-56.5	-56	0	4	5	-54	3	5	7	-54	3	5	6	-58	-1	1	3	-55	1	4	5	5	4	3	4
40,000	-56.5	-55	1	5	8	-55	2	6	8	-53	3	6	8	-55	1	4	6	-55	2	5	7	6	6	4	5
30,600	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-40	5	7	8	-45	-0	2	3	-47	-2	1	3	4	3	3	4
20,000	-21.2	-31	-9	-5	-2	-26	-3	1	2	-14	8	10	11	-21	1	4	6	-22	-1	3	5	7	5	3	5
10,000	- 4.6	-16	-12	-6	-4	-8	-3	0	2	4	8	11	12	-5	0	4	6	-6	-2	3	5	8	5	4	6
VANCOUVER TO YELLOWKNIFE																									848 N.MI.
55,000	-56.5	-56	1	5	7	-51	5	8	10	-50	7	9	10	-55	1	4	5	-53	4	6	8	6	4	3	4
40,000	-56.5	-55	1	6	8	-53	4	7	10	-51	5	8	10	-54	2	6	7	-53	3	7	9	6	6	5	5
30,000	-44.5	-53	-9	-6	-4	-50	-6	-3	-2	-45	1	4	5	-47	-3	0	2	-48	-4	-1	1	4	4	3	4
20,000	-21.2	-33	-12	-7	-4	-27	-6	-2	-1	-16	5	7	8	-23	-2	1	3	-25	-4	0	3	7	5	3	6
10,000	- 4.6	-18	-14	-8	-6	-11	-7	-4	-2	-6	4	7	8	-8	-3	0	2	-9	-5	-1	2	8	5	4	5
VIENNA TO WARSAW																									296 N.MI.
55,000	-56.5	-56	1	4	4	-54	3	5	7	-50	7	9	10	-57	-1	2	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-58	-2	2	4	-55	1	4	6	-51	6	9	10	-56	0	3	5	-55	1	5	7	5	5	4	4
30,000	-44.5	-52	-7	-5	-3	-48	-4	-1	0	-40	4	7	4	-44	1	3	5	-46	-2	2	4	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-23	-2	1	3	-14	7	10	11	-18	3	6	8	-21	0	4	6	6	5	3	5
10,000	- 4.6	-15	-9	-5	-3	-7	-3	0	2	1	6	8	9	-4	1	4	6	-6	-1	3	5	6	5	3	5
VIENNA TO ZURICH																									326 N.MI.
55,000	-56.5	-56	1	4	4	-54	2	5	4	-52	5	7	6	-58	-2	1	2	-55	1	4	6	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-0	3	5	-52	5	8	9	-56	0	3	4	-56	1	5	7	5	5	4	4
30,000	-44.5	-51	-4	-4	-2	-44	-3	-0	1	-40	5	7	9	-45	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-27	-4	-2	0	-22	-1	2	4	-13	8	10	11	-17	4	7	8	-20	1	5	7	5	4	3	4
10,000	- 4.6	-11	-4	-3	-1	-6	-1	2	3	3	7	9	11	-2	3	6	7	-4	1	4	6	5	4	3	4
WARSAW TO ZURICH																									557 N.MI.
55,000	-56.5	-56	1	4	6	-54	3	5	7	-50	6	8	10	-58	-1	1	3	-54	2	5	7	5	4	3	4
40,000	-56.5	-56	-2	2	4	-56	1	4	6	-51	5	8	10	-56	0	3	5	-55	1	5	7	5	5	5	4
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	0	-40	4	7	8	-44	1	3	5	-46	-1	2	4	4	4	4	4
20,000	-21.2	-28	-6	-3	-1	-23	-2	2	3	-14	6	10	11	-18	3	6	8	-21	1	4	6	6	5	3	5
10,000	- 4.6	-12	-8	-4	-2	-7	-2	1	2	2	6	9	10	-3	2	5	6	-5	-0	3	5	6	5	3	5
WEST END TO WEST PALM BEACH																									62 N.MI.
55,000	-56.5	-73	-17	-15	-14	-70	-14	-12	-11	-70	-14	-12	-12	-75	-18	-16	-15	-72	-16	-14	-13	3	3	2	3
40,000	-56.5	-56	0	2	3	-56	1	4	4	-57	-0	1	1	-55	2	3	4	-56	1	2	3	3	3	2	2
30,000	-44.5	-18	6	8	8	-37	7	9	10	-35	11	12	13	-34	11	12	13	-36	9	10	11	2	2	1	2
20,000	-21.2	-10	11	13	13	-10	11	13	14	-7	14	15	16	-7	14	16	16	-8	13	14	15	2	2	1	2
10,000	- 4.6	5	10	11	12	5	10	12	13	8	11	14	14	8	13	14	15	7	11	12	13	2	3	1	2
ZAGREB TO ZURICH																									326 N.MI.
55,000	-56.5	-56	1	4	6	-55	2	4	6	-55	4	6	7	-59	-2	0	2	-56	1	4	5	5	4	3	4
40,000	-56.5	-58	-2	2	4	-57	-1	3	5	-52	4	7	9	-56	0	3	4	-56	1	4	6	5	5	4	4
30,000	-44.5	-51	-6	-3	-2	-47	-3	-0	1	-39	5	8	9	-43	2	4	6	-45	-1	3	5	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-21	-0	2	4	-13	9	11	12	-17	4	7	8	-19	2	5	7	5	4	3	4
10,000	- 4.6	-10	-6	-2	-0	-6	-1	2	3	3	8	10	11	-2	3	6	7	-4	1	5	7	5	4	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE

TABLE 6

AIRPORT TEMPERATURES FOR THE 0, 50, 75, 85,
95, AND 100 PER CENT PROBABILITY OF OCCURENCE
BY MONTH, QUARTER, HALF YEAR AND YEAR

TABLE 6. SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
ACCRA, GHANA																			
0	65	59	62	59	68	67	69	67	59	68	66	64	66	68	67	69	67	66	59
50	82	80	82	81	82	82	81	82	81	79	77	76	77	77	80	81	79	78	80
75	86	85	88	86	86	86	84	86	87	82	80	79	81	80	85	84	82	82	85
85	87	87	89	89	88	87	86	88	89	85	81	80	82	81	84	85	84	85	87
95	90	90	95	95	95	90	89	91	94	87	85	84	86	86	86	88	87	87	95
100	94	96	100	100	100	95	95	100	100	92	90	89	92	89	90	91	91	92	100
ADM***	88	87	88	88	88	88	87	88	88	84	81	80	82	81	85	87	86	85	85
ADDIS ABABA, ETHIOPIA																			
0	52	55	56	52	58	60	52	50	52	44	45	45	45	58	56	55	55	15	12
50	57	59	62	59	65	64	64	61	61	62	60	60	60	61	60	58	60	60	61
75	65	65	64	66	69	70	70	70	69	67	64	64	66	66	67	64	67	67	68
85	66	68	71	69	72	75	75	75	72	71	67	67	70	69	70	67	70	71	72
95	71	74	77	76	77	79	80	80	80	79	75	75	76	74	76	75	78	80	81
100	82	82	86	86	84	88	91	91	91	94	88	84	94	81	91	81	91	94	94
ADM***	75	75	76	75	77	77	77	77	76	74	69	69	71	72	75	73	75	72	74
ADELAIDE, AUSTRALIA																			
0	45	45	45	45	44	40	57	57	57	55	52	52	12	55	16	41	55	52	52
50	71	76	76	71	70	64	58	64	68	54	52	54	51	57	62	67	62	56	65
75	79	82	82	82	78	71	64	75	78	59	57	60	60	64	70	75	71	67	75
85	88	87	87	87	82	75	64	79	45	62	60	64	65	64	76	80	77	75	79
95	98	99	97	94	95	84	76	20	76	68	65	72	71	77	85	92	90	87	95
100	115	118	116	118	111	99	89	111	118	76	76	85	85	91	101	115	115	115	116
ADM***	85	86	86	85	85	75	66	75	79	61	59	62	61	66	75	79	75	67	75
ADEN, ADEN-PADI																			
0	62	61	65	61	67	66	75	67	61	79	75	74	75	77	66	65	65	65	61
50	74	77	74	[illegible]	81	85	87	86	81	91	80	89	90	90	84	80	86	87	84
75	82	81	81	81	85	87	90	86	86	96	94	95	96	95	86	85	89	95	90
85	85	82	85	85	86	89	92	90	89	96	96	96	96	94	90	86	81	95	92
95	85	86	85	85	90	91	96	95	94	100	99	97	100	97	96	87	95	100	94
100	87	86	87	87	95	99	105	105	105	106	106	101	106	101	100	81	101	106	106
ADM***	81	82	85	85	86	89	91	89	86	98	97	96	97	96	91	86	91	94	90
ALGIERS, ALGERIA																			
0	12	54	54	52	57	45	48	57	12	55	62	64	55	55	45	40	40	40	52
50	54	56	55	55	54	62	68	62	54	72	77	74	75	75	69	61	68	72	65
75	61	59	65	61	65	64	75	69	66	77	81	85	81	81	75	67	76	80	74
85	66	62	65	65	66	72	77	74	71	80	85	88	85	84	79	70	80	84	79
95	69	67	75	75	75	82	86	84	82	84	92	96	91	92	87	77	89	95	90
100	76	76	86	86	84	99	101	101	101	101	106	107	107	101	100	88	105	107	107
ADM***	60	59	61	60	65	68	75	68	66	76	85	85	82	81	76	66	76	76	75
ALLAHABAD, INDIA																			
0	54	50	41	54	50	59	67	50	56	72	71	71	72	69	56	45	45	45	56
50	62	61	65	65	77	87	94	86	76	85	86	84	86	66	79	69	77	82	74
75	64	64	71	70	86	96	105	96	86	99	90	87	95	84	84	75	85	92	83
85	71	71	75	75	87	97	105	94	92	101	95	89	96	90	86	78	87	96	96
95	77	74	82	81	95	106	109	106	100	104	99	96	104	96	91	86	95	105	105
100	87	84	91	91	106	115	116	116	116	117	109	102	117	100	94	84	100	117	117
ADM***	74	75	79	77	92	105	107	101	89	105	92	89	85	81	90	45	84	91	90
AMMAN, JORDAN																			
0	25	21	25	21	26	56	45	28	21	60	56	55	60	42	44	35	35	15	21
50	51	47	48	48	52	61	70	61	55	69	77	70	75	75	69	60	66	71	65
75	57	55	55	56	59	69	74	71	65	76	81	84	82	81	76	67	77	81	76
85	60	57	60	60	65	74	82	76	70	81	86	89	86	85	79	70	81	85	79
95	67	66	69	70	75	85	91	87	85	91	91	96	95	92	87	78	90	95	91
100	77	76	85	85	90	101	105	105	105	109	104	109	109	105	96	81	105	109	109
ADM***	59	54	56	56	60	75	85	72	66	87	89	80	89	80	81	70	80	84	74
AMSTERDAM, NETHERLANDS																			
0	6	5	4	5	15	29	37	15	1	44	50	47	46	46	31	19	18	16	1
50	38	37	38	16	42	48	55	44	45	60	64	66	65	60	52	44	52	57	50
75	45	44	45	45	48	55	61	57	51	66	69	67	66	65	57	50	61	67	62
85	47	47	47	48	51	56	66	62	59	69	72	71	72	68	60	52	65	72	67
95	51	51	52	52	57	65	75	72	70	79	77	78	80	76	65	57	75	81	79
100	55	55	56	56	65	74	84	88	88	85	81	90	85	89	71	65	66	95	95
ADM***	41	40	41	41	46	52	60	51	47	65	69	68	67	66	56	47	56	61	56
ANCHORAGE, ALASKA																			
0	-35	-35	-38	-38	-22	-21	1	-22	-38	31	35	31	31	39	-6	-25	-21	-21	-38
50	16	15	19	15	25	35	46	35	25	56	57	56	56	46	38	22	35	45	35
75	25	25	32	28	38	44	57	49	41	60	65	62	62	55	46	35	48	61	52
85	30	30	37	35	40	52	61	55	48	64	66	65	66	58	49	38	55	66	59
95	40	41	46	45	47	58	70	67	62	72	75	72	76	64	58	47	62	76	71
100	55	56	57	57	58	65	82	82	82	86	85	82	86	75	65	60	75	86	86
ADM***	20	20	27	25	38	44	55	46	55	65	65	64	64	58	41	29	45	51	45
ANKARA, TURKEY																			
0	-15	13	-12	-15	5	20	31	5	-11	35	44	40	35	29	27	0	0	0	-15
50	36	32	38	38	41	52	61	51	42	66	75	75	70	65	57	47	56	65	55
75	47	37	45	45	51	60	69	65	56	76	80	81	79	76	66	58	69	77	68
85	51	40	49	49	55	64	71	64	65	77	85	86	85	78	64	62	76	82	74
95	57	47	56	56	65	76	81	79	76	86	90	91	90	85	76	69	86	91	86
100	65	59	64	64	80	89	94	94	94	96	100	100	100	96	89	78	96	100	100
ADM***	45	39	42	41	51	65	71	62	57	78	86	87	86	78	69	57	68	76	66
ANTIGUA IS., B. W. I.																			
0	64	62	62	62	62	65	67	62	62	66	70	69	66	67	67	59	59	59	59
50	78	77	77	77	78	79	81	79	78	82	81	82	81	82	81	79	80	81	79
75	81	80	80	81	81	85	85	84	82	86	84	85	85	85	84	84	86	86	85
85	85	82	82	82	85	85	86	86	84	88	86	87	87	87	86	86	88	88	87
95	86	85	86	86	87	89	90	90	89	92	91	91	92	91	89	91	92	92	91
100	92	89	91	92	95	94	96	96	96	98	94	98	98	97	94	98	98	98	98
ADM***	85	82	85	85	85	86	88	86	84	88	87	88	88	89	87	85	87	87	86

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
ARUBA, NETHERLAND ANTILLES																			
0	69	68	66	66	63	68	70	63	63	71	72	71	71	71	70	68	68	68	63
50	80	79	79	79	79	81	82	81	80	83	82	83	83	84	83	81	83	83	81
75	82	82	82	82	83	84	85	85	84	85	85	86	86	87	86	84	86	86	86
85	84	83	84	84	84	85	86	87	86	87	86	88	87	88	88	86	88	88	87
95	87	85	87	87	87	88	90	91	90	90	89	91	90	91	90	88	91	91	91
100	91	87	91	91	90	91	96	96	96	94	94	95	95	96	94	92	96	96	96
ADM***	84	83	84	84	84	86	86	85	84	87	87	88	87	89	88	85	88	87	86
ASUNCION, PARAGUAY																			
0	47	54	52	47	49	42	34	34	34	29	29	30	29	37	38	45	37	29	29
50	82	83	83	83	81	75	68	74	78	63	64	68	65	72	74	78	74	69	74
75	90	90	90	91	88	83	76	84	89	71	73	77	74	80	83	84	84	80	85
85	94	93	93	94	91	86	80	88	93	75	77	81	78	84	87	89	88	84	89
95	101	100	100	101	98	94	88	94	100	84	87	89	88	93	95	97	96	94	98
100	110	109	109	110	106	106	99	106	110	98	103	101	103	105	106	108	108	108	110
ADM***	94	95	94	94	92	84	77	84	89	72	74	78	75	83	84	90	84	80	85
ATHENS, GREECE																			
0	24	20	21	20	20	15	42	20	20	54	58	59	54	48	45	30	30	30	20
50	52	48	49	50	53	60	69	60	55	74	81	81	79	75	67	58	67	73	64
75	58	55	56	57	61	66	74	71	65	83	87	87	86	81	73	65	74	83	75
85	60	57	59	60	65	70	80	74	70	86	90	90	90	85	76	69	80	88	81
95	65	62	65	65	72	78	88	86	82	95	96	97	97	92	84	76	89	97	92
100	71	69	73	73	83	91	101	101	101	109	106	107	109	103	95	87	103	109	109
ADM***	57	54	55	55	60	67	77	68	62	85	90	90	88	83	74	64	74	81	71
ATLANTA, GA., U. S. A.																			
0	1	-2	-9	-9	9	25	18	8	-9	59	58	55	59	43	28	3	3	3	-9
50	45	45	41	45	53	62	70	61	53	78	80	79	79	74	63	52	63	71	62
75	55	54	59	58	63	71	78	74	68	87	85	85	88	82	72	63	77	86	78
85	59	60	64	62	68	75	81	78	74	90	88	87	91	86	76	67	82	90	84
95	66	68	71	70	76	82	88	87	84	96	94	93	97	92	84	74	91	97	93
100	75	79	79	79	87	93	97	97	97	102	103	102	103	102	95	82	102	103	103
ADM***	54	53	56	54	63	71	81	72	63	88	89	89	89	84	74	62	73	81	72
AUCKLAND, NEW ZEALAND																			
0	43	45	47	43	42	39	36	36	36	35	33	34	33	34	36	41	34	33	33
50	64	67	67	66	65	62	57	61	63	53	51	52	52	55	58	60	57	55	59
75	69	72	72	71	71	67	61	67	70	58	55	56	57	59	63	65	63	61	66
85	72	75	75	74	73	69	64	70	73	60	57	58	59	62	65	68	66	64	70
95	78	81	81	81	79	74	68	77	80	64	61	62	63	66	69	73	72	70	78
100	87	90	90	90	86	81	73	86	90	70	67	67	70	71	75	81	81	81	90
ADM***	70	73	71	72	71	67	62	67	69	58	56	54	57	60	63	66	63	60	65
BAGHDAD, IRAQ																			
0	70	18	23	18	27	37	51	27	18	58	62	64	58	51	39	29	29	29	18
50	51	50	53	52	60	71	82	71	61	89	93	93	92	87	77	64	76	84	73
75	61	57	61	61	66	80	90	82	73	97	101	100	100	96	86	73	87	96	86
85	64	61	65	65	71	84	94	87	79	101	104	104	104	99	89	76	92	101	92
95	71	67	73	73	79	92	101	97	92	109	111	110	111	106	97	84	102	110	106
100	79	77	86	86	90	104	112	112	112	119	121	120	121	116	107	94	116	121	121
ADM***	64	60	64	61	71	85	97	84	73	105	110	110	108	104	92	77	91	100	87
BAHREIN I., PERSIAN GULF																			
0	40	41	45	41	51	54	66	51	41	70	75	75	70	71	66	58	58	58	41
50	64	63	65	64	69	77	85	77	70	89	92	93	91	89	83	76	82	87	78
75	68	68	70	70	74	83	90	84	78	94	97	97	97	93	87	80	89	94	88
85	71	71	74	73	77	86	93	88	83	97	99	100	99	96	89	81	92	97	92
95	77	76	81	81	84	93	99	96	92	102	104	105	105	102	93	88	100	104	101
100	84	85	94	94	95	105	108	108	108	111	112	113	113	112	103	97	112	113	113
ADM***	67	68	70	69	75	84	92	94	76	96	97	100	98	96	90	82	89	96	85
BALTIMORE, MD., U. S. A.																			
0	4	-6	6	-6	14	25	33	14	-6	48	52	48	48	37	25	13	13	13	-6
50	36	36	35	35	43	52	63	53	44	72	76	74	74	68	57	46	57	65	55
75	44	44	43	45	51	60	71	63	56	79	83	81	81	76	65	54	68	78	69
85	49	48	48	50	55	65	75	68	63	82	86	84	84	80	69	58	73	82	75
95	59	57	59	60	65	74	83	79	75	89	92	91	91	87	78	66	84	91	86
100	74	70	76	76	79	90	95	95	95	99	102	100	102	99	92	77	99	102	102
ADM***	44	43	44	44	53	63	73	63	53	83	87	85	85	78	67	55	67	76	65
BANGALORE, INDIA																			
0	52	52	52	52	56	62	63	56	52	64	63	63	63	61	58	52	52	52	52
50	69	69	73	70	78	81	81	80	75	76	74	74	75	74	74	71	73	74	74
75	74	74	78	75	84	86	85	86	81	80	77	77	79	77	78	76	78	80	81
85	76	76	81	78	86	88	88	89	84	83	79	79	81	79	80	78	80	83	84
95	81	81	90	86	91	93	93	94	91	89	84	83	88	84	84	82	85	89	91
100	88	90	94	94	99	101	102	102	102	100	92	90	100	91	90	88	91	100	102
ADM***	79	81	86	82	91	93	92	92	87	85	82	82	83	82	82	80	81	82	85
BANGKOK, THAILAND																			
0	52	55	56	52	62	67	71	62	52	70	71	72	70	69	64	56	56	56	52
50	83	79	82	81	84	86	85	85	83	84	83	83	83	83	82	80	81	82	83
75	89	84	88	88	90	91	89	91	90	87	87	86	87	86	86	85	87	88	90
85	92	87	91	91	92	93	92	93	93	89	89	88	89	88	88	88	90	91	93
95	96	92	97	97	97	98	97	99	99	93	93	92	94	92	93	92	94	95	99
100	100	100	106	106	106	106	106	106	106	100	101	99	101	98	100	99	100	101	106
ADM***	87	89	91	89	91	95	93	94	91	91	90	90	90	89	88	87	88	89	90
BARBADOS, B. W. I.																			
0	64	61	61	61	62	64	66	62	61	67	68	69	67	67	67	66	66	66	61
50	77	77	76	77	78	79	80	79	78	81	80	81	80	81	80	79	80	80	79
75	80	80	80	80	81	82	83	83	82	84	83	84	84	84	83	82	83	84	83
85	82	81	81	82	83	84	85	84	83	85	84	85	86	85	84	83	85	85	85
95	84	84	84	84	85	86	87	87	87	87	87	89	89	88	87	86	88	85	85
100	88	87	87	88	89	89	91	91	91	90	90	95	95	91	92	89	92	95	95
ADM***	83	83	83	83	85	86	87	86	85	87	86	87	87	87	86	85	86	86	85

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
BARCELONA, SPAIN																			
0	25	24	29	24	32	35	41	32	24	49	54	56	49	49	39	31	31	31	24
50	51	49	51	50	54	58	64	59	54	70	75	76	74	72	65	56	64	69	62
75	57	55	56	57	60	63	70	66	62	76	80	81	80	77	70	62	72	78	71
85	60	58	59	60	63	66	73	69	67	79	83	83	83	79	73	65	75	81	75
95	65	63	66	67	69	73	80	77	76	85	88	89	89	83	77	71	81	89	85
100	73	71	77	77	79	82	90	90	90	95	96	98	98	89	82	80	89	98	98
ADM***	57	56	57	57	61	64	71	65	61	77	81	82	80	78	71	62	70	75	68
BARRANQUILLA, COLOMBIA																			
0	68	66	68	66	67	68	68	67	66	69	70	69	69	68	68	70	68	68	66
50	83	82	82	82	83	84	85	84	83	85	85	86	85	86	84	84	84	85	84
75	87	86	85	86	86	88	89	88	87	89	89	90	89	90	88	87	89	89	88
85	88	88	87	88	88	90	91	90	90	91	91	92	91	92	90	89	91	91	91
95	92	92	91	92	92	95	94	95	94	95	95	96	96	96	94	92	95	96	95
100	96	98	97	98	98	102	100	102	102	100	101	102	102	102	99	98	102	102	102
ADM***	91	90	90	90	91	92	92	92	91	93	94	94	94	94	92	91	92	93	92
BASLE, SWITZERLAND																			
0	-6	-11	-11	-11	6	22	27	6	-11	37	41	38	37	30	22	13	13	13	-11
50	34	34	36	35	43	50	58	50	42	64	67	67	66	61	51	42	51	58	50
75	44	44	47	45	52	58	66	61	56	71	74	74	74	69	59	49	61	70	65
85	47	48	51	49	56	62	70	66	62	75	78	78	78	73	63	52	66	75	72
95	55	56	58	57	63	72	78	77	74	85	87	88	87	81	71	60	78	84	85
100	65	66	67	67	73	87	92	92	92	101	102	102	102	95	85	71	95	102	102
ADM***	39	39	43	40	52	60	68	60	50	74	78	77	76	70	59	47	59	67	59
BASRAH, IRAQ																			
0	29	24	28	24	36	47	48	36	24	69	72	68	68	58	45	38	38	38	24
50	59	55	58	57	65	74	86	75	66	91	93	92	92	87	79	69	78	85	75
75	66	62	66	65	73	81	95	85	77	96	99	98	98	94	88	76	88	96	88
85	69	65	69	69	76	85	99	90	83	99	102	101	102	98	92	80	93	101	94
95	76	72	76	76	84	93	105	100	95	105	110	109	110	105	101	87	102	110	106
100	85	81	87	87	95	105	114	114	114	115	123	120	123	116	114	98	116	123	123
ADM***	69	64	68	67	75	85	96	85	76	100	104	105	103	102	94	80	92	98	87
BEIRUT, LEBANON																			
0	30	31	30	30	36	43	50	36	30	56	63	62	56	60	52	41	41	41	30
50	60	57	57	58	60	65	71	65	62	76	80	82	79	80	75	67	74	76	69
75	67	63	64	65	67	72	78	74	71	82	84	86	85	85	81	74	82	85	79
85	70	65	68	69	71	75	82	79	76	85	86	88	88	87	84	76	85	88	84
95	76	70	75	76	81	84	91	89	88	92	91	93	94	92	91	82	92	95	93
100	84	77	87	87	97	99	107	107	107	104	98	99	104	99	101	91	101	104	107
ADM***	65	62	63	63	66	72	78	72	68	83	87	89	86	86	81	73	80	83	75
BELEM, BRAZIL																			
0	66	66	68	66	66	69	68	66	66	68	64	67	64	65	67	67	65	64	64
50	81	80	79	80	80	80	81	80	80	80	80	80	80	80	80	81	80	80	80
75	84	83	82	83	84	83	84	84	84	83	83	83	84	84	84	84	84	84	84
85	86	85	84	85	85	85	85	86	86	85	85	85	86	86	86	86	86	86	86
95	91	89	88	90	89	89	89	89	90	88	89	89	89	90	90	90	91	91	91
100	97	95	94	97	95	95	94	95	97	93	94	95	95	96	98	97	98	98	98
ADM***	89	87	86	87	87	87	88	87	87	88	88	88	88	89	89	90	89	89	88
BELFAST, N. IRELAND																			
0	21	14	15	14	21	25	25	21	14	32	41	37	32	30	26	24	24	24	14
50	42	38	38	39	42	46	52	46	43	46	59	58	54	55	50	44	49	52	47
75	46	44	44	45	47	51	58	53	51	51	63	63	60	60	55	49	56	59	56
85	48	46	46	47	50	53	61	57	55	55	65	66	63	63	57	50	59	62	60
95	52	50	50	51	55	59	68	65	63	64	69	71	70	68	62	53	65	70	69
100	56	55	56	56	63	67	77	77	77	82	75	80	82	75	67	57	75	82	82
ADM***	46	42	43	44	44	53	59	51	48	63	65	64	64	61	55	49	55	60	54
BELGRADE, YUGOSLAVIA																			
0	-3	-2	-14	-14	6	21	29	6	-14	41	49	45	41	35	9	12	9	9	-14
50	35	32	34	34	44	55	64	54	44	69	73	72	71	64	56	46	56	63	54
75	44	40	45	45	54	63	72	66	58	76	79	79	79	73	67	55	67	76	70
85	49	44	50	49	58	67	75	70	64	79	83	83	83	77	72	59	72	82	77
95	57	52	58	58	67	76	82	80	76	87	90	92	92	85	81	69	82	93	90
100	69	62	58	69	80	88	92	92	92	98	103	107	107	96	94	85	96	107	107
ADM***	40	37	41	39	53	64	74	64	51	79	84	83	82	76	65	52	64	73	62
BELIZE, BRITISH HONDURAS																			
0	49	49	49	49	54	59	60	54	49	64	62	60	60	60	58	52	52	52	49
50	75	74	76	75	78	80	81	80	77	81	81	82	81	81	79	76	78	80	78
75	80	80	82	81	83	85	86	85	84	85	85	86	86	85	84	81	84	86	85
85	83	82	84	83	85	87	88	88	86	87	87	88	88	88	86	84	87	88	88
95	87	86	88	87	90	91	91	92	91	91	91	92	92	92	90	88	91	92	92
100	92	90	93	93	95	97	96	97	97	97	95	96	97	97	96	95	97	97	97
ADM***	81	81	82	81	84	86	87	86	83	87	87	88	87	87	86	83	85	86	85
BENGASI, LIBYA																			
0	40	38	38	38	37	41	48	37	37	55	57	60	55	52	51	45	45	45	37
50	60	57	58	58	62	66	71	66	62	76	78	79	77	76	73	67	72	75	68
75	64	61	63	63	69	74	78	75	70	82	83	84	84	83	79	73	79	83	77
85	67	64	66	66	73	78	82	79	75	85	86	87	87	86	82	76	83	87	82
95	71	69	72	72	84	88	92	90	87	94	94	94	95	94	89	84	92	95	92
100	78	76	82	82	101	105	108	108	108	109	105	105	109	106	100	95	106	109	109
ADM***	66	63	64	64	69	74	79	74	69	83	84	85	84	83	80	74	79	82	75
BERGEN, NORWAY																			
0	6	7	3	3	10	15	25	10	3	35	39	39	35	28	22	21	21	21	3
50	37	35	35	36	38	45	53	45	40	58	62	60	60	55	48	41	48	54	47
75	44	42	42	43	45	52	60	54	50	65	68	66	67	61	54	46	55	62	58
85	47	44	45	47	48	56	63	58	55	68	71	69	70	6[illegible]	56	48	59	67	63
95	53	49	49	53	56	64	70	67	65	76	78	75	77	70	61	53	67	75	74
100	62	56	54	62	68	77	81	81	81	89	89	85	89	79	68	59	79	89	89
ADM***	45	43	44	44	47	55	64	55	50	70	72	70	71	64	57	49	57	64	57

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
BERLIN, GERMANY																			
0	-5	1	-15	-15	7	20	28	7	-15	35	43	43	35	31	15	8	8	8	-15
50	33	31	33	32	39	47	56	47	40	61	65	63	65	57	48	38	48	55	47
75	41	38	43	43	47	54	63	58	53	68	71	69	70	65	56	45	58	67	62
85	45	41	47	47	51	51	57	63	60	71	74	72	74	69	60	49	64	72	68
95	51	47	54	54	60	68	77	74	73	80	83	81	83	78	67	55	76	82	80
100	58	55	62	62	73	83	92	92	92	93	96	94	96	94	77	64	94	96	96
ADM***	37	35	38	37	46	55	65	55	46	70	74	72	72	65	55	43	55	63	55
BERMUDA, BERMUDA																			
0	45	41	40	40	41	42	49	41	40	58	62	62	58	59	53	49	49	49	40
50	65	63	63	64	61	65	70	66	65	75	79	80	78	78	74	69	74	76	70
75	70	68	68	69	68	71	75	72	71	79	84	85	83	83	79	73	80	82	78
85	72	71	70	71	71	73	77	75	74	81	86	87	86	85	81	76	83	85	81
95	76	75	75	76	76	79	82	80	80	86	91	92	91	90	86	80	89	[illegible]	89
100	81	81	81	81	84	87	88	88	88	92	98	99	99	98	92	87	98	99	99
ADM***	70	68	68	69	68	71	76	72	70	81	85	86	84	86	79	76	79	82	76
BLOEM FONTEIN, AFRICA																			
0	37	42	39	37	37	28	22	22	22	16	17	16	16	21	28	35	21	16	16
50	72	73	71	72	67	60	53	60	66	48	47	53	49	58	64	68	63	56	61
75	80	81	79	80	74	68	60	69	76	56	54	61	57	67	73	75	73	64	72
85	83	84	82	84	78	71	64	73	81	59	58	65	61	71	77	79	77	71	77
95	89	91	88	91	84	78	71	82	89	67	64	71	69	79	84	85	85	81	87
100	97	100	95	100	93	88	81	91	100	78	75	80	80	90	95	96	95	95	100
ADM***	85	86	83	85	79	71	66	73	79	62	61	67	63	73	76	81	77	70	74
BOGOTA, COLOMBIA																			
0	40	40	42	40	42	45	45	42	40	44	44	44	44	44	43	44	43	43	40
50	58	58	59	58	59	59	59	59	58	58	57	58	58	58	58	58	58	58	58
75	62	62	61	62	63	63	62	63	63	62	61	61	61	61	62	62	62	61	63
85	64	64	65	64	65	65	64	65	65	61	62	61	63	63	64	63	63	63	65
95	68	68	69	69	69	69	68	69	69	67	66	66	66	67	67	67	67	67	69
100	71	74	75	75	75	75	74	75	75	72	72	72	72	73	73	73	73	73	75
ADM***	66	67	68	67	67	67	66	67	67	65	64	65	65	[illegible]	[illegible]	[illegible]	[illegible]	65	66
BOMBAY, INDIA																			
0	55	53	53	51	62	68	71	62	53	70	72	72	70	71	70	64	64	64	53
50	78	75	75	76	79	83	86	82	79	84	81	81	82	81	81	81	81	82	80
75	83	80	81	82	84	86	89	87	86	88	84	83	85	83	86	85	86	86	87
85	85	83	83	84	86	88	90	90	86	89	85	84	87	85	86	87	88	88	90
95	89	87	89	90	92	93	92	94	94	93	89	86	92	89	91	91	91	93	95
100	94	94	97	97	101	100	96	101	101	99	96	90	99	95	97	96	97	99	101
ADM***	87	83	83	84	86	89	91	89	86	89	85	85	86	85	89	89	88	87	87
BONAIRE IS., NETH. ANTILLES																			
0	49	68	66	66	63	68	70	61	63	71	72	71	71	71	70	68	68	68	63
50	80	79	79	79	79	81	82	81	80	83	82	83	83	84	83	81	83	83	81
75	82	82	82	82	83	84	85	85	84	85	85	86	86	87	86	86	86	86	86
85	84	83	84	84	84	85	86	87	86	87	86	89	87	86	86	86	88	88	87
95	87	85	87	87	87	89	90	91	90	90	89	91	90	91	90	88	91	91	91
100	91	87	91	91	90	91	96	96	96	94	94	95	95	96	94	92	94	96	96
ADM***	84	83	84	84	84	86	86	85	84	87	87	88	87	89	89	86	86	87	86
BORDEAU, FRANCE																			
0	9	10	11	9	21	22	33	21	9	37	42	33	33	29	22	19	19	19	9
50	41	42	44	41	49	54	59	54	48	65	69	69	67	65	57	48	56	62	55
75	51	49	53	52	57	62	66	63	59	72	76	77	76	74	65	55	66	73	67
85	54	52	57	56	61	66	71	68	66	76	80	82	80	78	69	59	72	78	73
95	60	58	66	65	70	75	80	78	76	86	94	90	89	87	77	66	83	88	86
100	68	66	79	79	84	88	95	95	95	101	101	102	102	100	86	77	100	102	102
ADM***	49	44	52	50	54	63	69	63	56	75	80	80	79	75	66	55	65	72	64
BOSTON, MASS., U. S. A.																			
0	-17	-13	-18	-16	-8	11	31	-8	-16	41	50	46	41	34	25	-2	-2	-2	-18
50	33	29	29	30	38	47	58	48	39	67	72	72	70	64	55	44	55	62	51
75	45	40	41	42	50	57	66	61	54	74	79	78	78	73	63	56	68	77	67
85	49	45	46	47	55	62	70	67	61	78	82	82	82	77	67	61	76	83	74
95	58	54	55	58	66	72	80	80	75	87	90	89	91	87	76	70	86	93	87
100	69	72	68	72	86	89	97	97	97	100	104	101	104	102	90	83	102	104	104
ADM***	40	37	37	38	45	55	66	55	47	76	80	79	76	73	63	52	62	70	58
BRASILIA, BRAZIL																			
0	57	59	58	57	59	59	53	51	53	49	50	51	49	53	54	57	53	49	49
50	73	74	74	73	74	73	70	72	73	68	67	68	67	72	73	74	73	70	71
75	77	78	78	78	78	77	75	77	78	73	71	73	72	77	78	78	78	76	77
85	80	80	80	80	80	79	77	80	81	75	74	75	75	80	81	81	81	79	80
95	85	86	85	86	86	84	82	86	86	80	80	81	81	86	87	86	87	86	87
100	95	95	93	95	95	93	91	95	95	89	89	91	91	96	97	95	97	97	97
ADM***	81	83	83	82	83	82	79	81	82	77	77	79	78	83	84	83	83	80	81
BRISBANE, AUSTRALIA																			
0	56	59	58	56	52	44	41	41	41	37	36	37	36	41	43	48	41	36	36
50	76	77	77	77	74	70	65	70	73	60	59	61	60	66	70	73	70	65	69
75	82	83	82	83	80	77	71	77	82	66	64	67	66	72	77	80	77	73	78
85	85	86	85	86	85	80	74	81	86	70	67	70	70	76	81	86	82	78	85
95	93	95	93	95	89	86	81	88	95	77	74	77	77	85	89	92	91	88	93
100	106	110	106	110	99	95	90	99	110	89	85	88	89	95	101	106	106	106	110
ADM***	85	85	85	85	82	79	74	78	82	69	68	71	69	76	80	82	79	74	78
BROWNSVILLE, TEX., U. S. A.																			
0	29	23	22	22	32	45	53	32	22	49	68	68	49	55	43	37	37	37	22
50	62	61	64	62	68	74	79	74	68	83	84	84	83	81	76	68	75	79	74
75	70	69	74	72	77	81	85	83	79	90	88	88	91	88	83	75	84	89	85
85	74	73	78	76	81	84	88	87	85	93	90	90	94	91	86	79	88	92	89
95	80	79	85	84	88	91	93	93	91	97	95	94	98	96	90	85	95	98	96
100	88	87	94	94	99	100	100	100	100	101	103	100	103	104	95	94	104	104	104
ADM***	72	70	71	72	77	82	87	82	77	91	93	93	92	90	86	77	84	88	83

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
BRUSSELS, BELGIUM																			
0	5	8	0	0	14	24	29	14	0	36	40	41	36	34	22	12	12	12	0
50	38	37	37	37	42	48	56	48	43	60	64	63	62	59	51	42	50	56	49
75	45	43	46	46	49	54	63	58	54	67	70	70	70	66	59	49	61	67	62
85	48	46	49	49	53	58	67	63	60	71	74	73	74	70	62	52	66	72	68
95	53	51	55	55	60	66	77	75	75	80	83	82	83	79	70	59	77	83	80
100	59	58	63	63	72	80	93	93	93	94	98	97	98	95	82	69	95	98	98
ADM***	42	42	43	42	49	56	65	57	49	70	73	72	72	67	58	47	57	64	57
BUCHAREST, ROMANIA																			
0	-16	-18	-12	-18	4	22	32	6	-18	40	46	44	40	29	13	0	0	0	-18
50	32	27	31	30	42	52	63	52	41	70	74	73	72	65	60	42	55	64	52
75	43	37	42	42	51	60	71	64	56	78	81	81	80	73	70	53	68	78	69
85	48	42	47	47	56	65	75	69	62	82	85	84	84	77	74	58	74	84	76
95	57	50	57	57	66	75	83	80	76	93	93	93	93	85	81	69	84	94	89
100	69	61	72	72	80	91	96	96	96	105	105	105	105	97	88	85	97	105	105
ADM***	17	33	38	36	51	63	74	63	49	81	86	86	84	76	65	49	63	74	62
BUDAPEST, HUNGARY																			
0	-3	-7	-10	-10	8	24	32	8	-10	37	48	45	37	34	15	8	8	8	-10
50	35	31	34	33	44	53	62	53	43	68	72	70	70	64	53	42	53	61	52
75	43	39	44	43	53	61	70	64	56	76	78	77	78	71	62	51	64	74	67
85	47	43	48	47	57	65	73	68	62	80	81	81	82	75	67	54	69	79	74
95	53	50	55	55	65	73	80	78	74	89	89	89	90	83	75	62	80	90	86
100	60	59	64	64	78	86	90	90	90	103	101	102	103	95	87	73	95	103	103
ADM***	38	35	40	38	51	62	72	62	50	78	82	81	80	74	61	47	61	70	60
BUENOS AIRES, ARGENTINA																			
0	39	43	40	39	39	28	25	25	25	23	22	27	22	28	28	36	28	22	22
50	72	74	71	73	70	63	56	63	68	49	50	52	50	55	60	66	60	55	61
75	80	82	81	81	77	71	63	72	78	56	57	59	58	62	68	74	69	64	72
85	83	84	85	85	81	75	67	76	83	59	61	63	62	66	71	77	73	69	77
95	91	93	92	93	88	84	74	86	92	66	70	72	72	74	79	84	82	79	88
100	102	104	103	104	99	97	84	99	104	77	84	87	87	84	91	95	95	95	104
ADM***	82	85	83	83	79	72	64	72	77	57	57	60	58	64	69	74	70	64	71
BUTTERWORTH, FED. OF MALAYA																			
0	67	66	66	66	67	67	67	67	66	68	69	69	68	68	67	65	65	65	65
50	81	82	82	82	83	83	82	83	82	82	82	81	82	81	81	81	81	81	82
75	85	86	86	86	87	87	86	87	86	86	85	84	85	84	85	84	85	85	86
85	86	88	88	88	89	89	87	89	88	87	87	86	87	86	86	84	87	87	88
95	90	92	92	92	93	93	91	92	92	91	90	90	91	91	89	90	91	92	92
100	95	98	97	98	95	98	94	98	98	97	95	96	97	98	94	95	98	98	98
ADM***	89	90	91	90	92	91	90	91	91	90	90	89	90	88	89	88	88	89	90
CAIRO, EGYPT																			
0	34	35	35	34	34	42	49	34	34	55	61	63	55	58	51	42	42	42	34
50	69	56	59	61	64	70	77	70	64	82	83	83	83	79	74	68	74	78	72
75	77	62	65	68	71	78	85	80	75	89	89	87	90	85	83	75	83	88	82
85	79	66	69	72	74	93	89	85	81	93	92	92	94	88	84	79	87	92	88
95	83	74	78	80	85	94	109	97	94	102	99	98	103	94	95	87	94	102	99
100	87	88	92	92	101	113	114	114	114	117	109	109	117	108	109	100	109	117	117
ADM***	66	65	69	67	75	83	91	83	75	95	94	95	95	90	84	78	85	90	83
CALCUTTA, INDIA																			
0	45	44	44	44	50	61	65	50	44	70	73	74	70	72	63	51	51	51	44
50	67	66	72	69	81	86	87	85	77	86	84	84	84	84	82	74	80	82	79
75	73	71	78	75	88	92	92	92	85	90	87	86	89	87	86	80	86	90	88
85	75	74	81	79	91	95	95	94	89	93	89	88	92	89	88	82	89	93	92
95	80	81	86	86	97	100	100	101	97	100	92	91	99	92	91	86	91	101	100
100	87	89	98	98	104	137	108	104	100	111	98	94	111	97	94	92	97	111	111
ADM***	79	80	84	81	93	97	94	95	88	92	89	89	90	90	89	84	88	89	88
CALGARY, ALBERTA, CANADA																			
0	-45	-48	-49	-49	-35	-14	12	-35	-49	26	32	28	26	8	-8	-31	-31	-31	-49
50	19	13	17	16	26	40	50	36	27	56	62	60	59	51	42	28	40	49	38
75	34	29	13	32	40	53	59	55	44	64	70	68	68	61	54	41	56	67	59
85	40	14	39	38	44	59	64	62	54	69	74	72	72	66	59	47	63	74	66
95	52	45	51	51	59	70	74	75	69	79	83	82	82	76	70	58	75	85	80
500	67	61	64	67	75	85	90	90	90	95	97	96	97	90	85	71	90	97	97
ADM***	29	24	28	27	37	53	63	51	39	69	76	74	73	64	54	38	52	63	51
CAMPECHE, MEX.																			
0	55	53	51	51	52	58	63	52	51	69	64	67	64	68	63	56	56	56	51
50	73	73	74	73	78	81	83	80	77	83	83	82	82	82	79	76	79	81	79
75	78	79	80	77	84	87	88	87	84	87	87	86	87	85	83	81	84	87	86
85	80	80	82	81	86	90	91	91	87	89	89	88	90	87	85	83	86	89	89
95	85	85	88	87	91	94	94	97	95	94	92	93	95	90	88	86	91	95	96
100	92	92	95	95	98	106	104	106	106	103	97	100	105	96	94	91	96	103	106
ADM***	82	83	85	83	89	92	94	92	87	92	92	91	92	90	87	85	87	89	88
CANTON ISLAND, PHOENIX IS.																			
0	71	74	73	71	73	73	71	71	71	73	72	71	71	73	73	74	73	71	71
50	84	85	84	84	84	84	85	84	84	85	85	85	85	85	84	84	84	85	84
75	87	87	87	88	87	87	88	88	88	88	88	88	88	88	87	87	87	88	88
85	88	89	88	89	88	88	89	89	89	89	90	89	90	89	88	88	89	90	89
95	91	92	91	93	91	92	93	92	93	92	92	92	92	92	91	92	93	93	93
100	94	98	96	98	96	97	97	97	98	96	96	95	96	95	96	98	98	98	98
ADM***	89	90	89	89	90	90	91	90	90	91	91	91	91	91	90	90	90	91	90
CAPETOWN, U. SO. AFRICA																			
0	41	44	41	41	42	38	31	31	31	29	28	31	28	33	34	40	33	28	28
50	67	69	70	69	68	65	58	63	66	56	54	55	55	57	61	69	62	59	62
75	74	76	77	76	75	70	66	72	75	63	61	62	62	64	68	76	70	67	71
85	78	79	81	80	79	74	70	76	79	66	64	66	66	68	72	79	74	71	76
95	86	87	88	88	88	85	79	86	89	74	72	75	75	77	79	85	81	80	87
100	100	99	100	100	103	102	95	103	103	85	84	89	89	93	90	93	93	93	103
ADM***	76	78	79	78	77	72	67	72	75	65	63	64	64	65	70	73	69	67	71

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
CARACAS, VENEZUELA																			
0	47	47	46	46	45	51	52	45	45	53	52	53	52	53	54	51	51	51	45
50	68	66	67	67	69	71	71	70	68	70	70	70	70	71	70	69	70	70	69
75	73	70	72	72	74	75	76	76	74	74	74	74	74	75	74	73	74	74	75
85	75	72	74	75	77	78	78	79	77	76	76	76	76	77	76	75	76	76	78
95	78	77	80	80	83	82	82	84	83	80	79	80	80	80	80	79	80	80	83
100	83	83	88	88	91	89	89	91	91	86	84	86	86	85	86	84	86	86	91
ADM***	78	75	77	77	79	81	80	80	78	78	78	79	78	80	79	77	79	78	78
CARTAGENA, COLOMBIA																			
0	68	66	68	66	67	68	68	67	66	69	70	69	69	68	68	70	68	68	66
50	83	82	82	82	83	84	85	84	83	85	85	86	85	86	84	84	84	85	84
75	87	86	85	86	86	88	89	88	87	89	89	90	89	90	88	87	89	89	88
85	88	88	87	88	88	90	91	90	90	91	91	92	91	92	90	89	91	91	91
95	92	92	91	92	92	95	94	95	94	95	95	96	96	96	94	92	95	96	95
100	96	98	97	98	98	102	100	102	102	100	101	102	102	102	99	98	102	102	102
ADM***	91	90	90	90	91	92	92	92	91	93	94	94	94	94	92	91	92	93	92
CARUPANO, VENEZUELA																			
0	60	57	57	57	54	60	57	54	54	60	52	60	52	56	61	61	56	52	52
50	78	76	77	77	77	79	80	78	77	79	79	79	79	80	80	79	79	79	78
75	82	81	81	82	83	83	85	84	83	84	85	83	85	85	84	83	85	86	85
85	84	83	84	84	85	86	87	87	86	86	87	85	87	88	86	85	88	88	88
95	89	88	88	89	91	91	92	92	91	90	92	89	92	93	91	89	93	94	93
100	97	96	95	97	99	99	98	99	99	97	97	93	97	101	98	95	101	101	101
ADM***	86	85	86	86	87	88	89	88	87	87	87	87	87	88	88	87	88	87	87
CASABLANCA, MOROCCO																			
0	37	31	35	31	35	41	45	35	31	46	54	53	46	50	46	40	40	40	31
50	56	54	55	55	58	61	64	61	58	69	72	74	71	71	67	61	66	69	63
75	62	60	A1	62	65	67	70	69	66	75	78	80	79	78	74	67	74	77	73
85	65	63	65	65	70	71	74	73	71	78	82	84	83	82	78	71	79	82	78
95	72	70	73	74	80	82	84	83	82	85	92	94	93	92	89	80	91	92	90
100	84	81	87	87	98	100	100	100	100	97	108	110	110	110	107	95	110	110	110
ADM***	65	63	64	A4	67	69	72	69	67	76	79	81	79	79	76	69	75	77	72
CHEROKEE SOUND, BAHAMAS																			
0	45	41	43	41	46	53	51	46	41	62	67	67	62	65	54	49	49	49	41
50	73	73	71	72	73	75	74	75	74	71	82	83	78	82	79	76	79	78	76
75	79	80	77	79	78	80	83	82	81	74	85	86	82	85	84	81	85	85	84
85	81	82	79	81	81	82	85	84	83	76	87	88	84	87	86	83	87	87	86
95	84	84	82	84	84	86	88	88	88	83	90	90	88	89	89	86	90	91	90
100	85	85	86	86	88	91	92	92	92	94	94	94	94	92	92	89	92	94	94
ADM***	79	77	77	78	79	81	84	81	79	87	88	89	88	88	85	81	85	84	85
CHICAGO, ILL., U. S. A.																			
0	-12	-15	-15	-15	-7	19	30	-7	-15	35	49	46	35	36	20	-2	-2	-2	-15
50	24	25	27	27	37	48	59	48	37	69	75	73	72	66	54	40	53	63	50
75	38	35	38	38	48	56	67	62	51	78	81	80	81	74	63	50	67	77	66
85	43	40	43	41	54	60	71	67	58	82	85	83	85	78	67	55	73	83	73
95	52	51	54	53	65	69	80	79	72	91	92	90	93	87	77	66	84	93	86
100	65	67	69	69	82	86	94	94	94	104	103	101	104	101	91	81	101	104	104
ADM***	35	33	35	34	45	58	70	57	46	80	85	83	83	76	64	48	63	75	59
CHITOSE, JAPAN																			
0	-11	-17	-19	-19	-9	6	24	-9	-19	32	41	42	32	30	24	8	8	8	-19
50	25	20	22	22	28	42	51	40	31	60	67	70	65	61	50	38	49	57	44
75	33	29	31	32	37	51	58	52	44	67	73	77	74	69	56	45	60	69	60
85	38	33	35	37	41	55	62	58	51	70	77	80	77	72	59	49	64	74	66
95	4A	41	41	46	50	64	71	69	65	77	84	85	85	79	66	57	74	84	79
100	54	52	48	58	62	77	86	86	86	88	96	93	96	88	77	70	88	96	96
ADM***	33	29	31	31	36	51	61	49	40	69	75	79	74	71	60	46	59	67	55
CHITTAGONG, PAKISTAN																			
0	47	45	46	45	51	59	65	51	45	68	67	72	67	71	62	52	52	52	45
50	68	67	71	69	77	81	82	80	76	82	82	81	82	82	80	75	79	80	77
75	73	73	77	75	85	87	86	87	82	86	85	84	85	84	84	80	85	86	85
85	76	75	79	78	88	89	88	90	85	88	87	85	87	86	86	82	87	89	88
95	81	81	85	84	92	94	92	95	92	92	90	88	92	89	90	87	91	93	94
100	88	89	93	93	99	102	98	102	102	98	94	93	98	95	94	93	95	98	102
ADM***	79	79	82	80	87	89	89	88	84	87	86	86	86	87	87	84	86	86	85
CHRISTCHURCH, NEW ZEALAND																			
0	33	34	35	33	30	26	21	21	21	22	23	23	22	23	26	31	23	22	21
50	60	62	61	61	58	54	48	53	57	44	43	44	43	49	53	57	53	48	52
75	67	69	68	69	66	61	55	62	67	49	48	50	49	56	61	64	61	56	62
85	71	73	72	73	69	64	59	66	71	52	51	53	52	59	65	68	65	61	66
95	79	82	80	82	77	71	66	75	81	59	58	59	59	68	74	76	75	72	78
100	92	96	94	96	90	82	78	90	96	69	70	70	70	81	88	90	90	90	96
ADM***	69	70	69	69	66	62	56	61	65	51	50	52	51	57	62	66	62	56	61
CHUNG KING, CHINA																			
0	31	29	30	29	37	44	54	37	29	58	59	62	58	57	46	41	41	41	29
50	51	45	50	49	59	67	74	66	57	79	85	86	83	77	66	57	67	75	66
75	56	50	56	54	66	73	79	74	66	84	91	92	90	82	72	62	74	84	76
85	58	52	59	58	71	78	83	79	71	87	94	95	93	85	75	65	78	88	81
95	64	58	67	66	83	87	91	88	83	93	101	102	100	92	82	72	88	97	93
100	72	68	79	79	104	104	104	104	104	103	110	111	111	104	94	83	104	111	111
ADM***	55	49	55	53	65	73	80	73	65	85	93	95	91	82	71	61	71	81	72
CHURCHILL, MANITOBA, CANADA																			
0	-47	-57	-52	-57	-52	-28	-14	-52	-57	13	22	25	13	15	-17	-53	-53	-53	-57
50	-9	-17	-17	-14	-4	11	28	12	-1	42	55	53	50	43	30	10	27	39	19
75	1	-6	-6	-3	8	22	41	29	16	51	64	61	60	51	41	24	46	60	38
85	6	1	-1	4	13	28	47	38	25	56	69	65	66	56	46	28	54	67	47
95	17	15	12	17	25	42	62	57	48	68	79	75	77	67	56	37	67	81	67
100	34	39	34	39	41	64	87	87	87	88	96	91	96	84	69	45	84	96	96
ADM***	-2	-10	-9	-7	4	19	35	19	6	50	64	61	58	48	35	16	33	46	26

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
CIUDAD DEL CARMEN, MEX.																			
0	55	55	51	51	52	58	65	52	51	69	64	67	64	68	65	56	56	56	51
50	75	75	74	75	78	81	85	80	77	85	85	82	82	82	79	76	79	81	79
75	78	78	80	79	84	87	88	87	84	87	87	86	87	85	85	81	84	87	86
85	80	80	82	81	86	90	91	91	87	89	89	88	90	87	85	85	86	89	89
95	85	85	88	87	91	96	96	97	95	94	92	95	95	90	89	86	91	95	96
100	92	92	95	95	98	106	104	106	106	105	97	100	105	96	94	91	96	105	106
ADM***	82	85	85	85	89	92	94	92	87	92	92	91	92	80	87	85	87	89	88
CLEVELAND, OHIO, U. S. A.																			
0	-9	-9	-8	-9	-5	19	29	-5	-9	38	46	44	38	32	25	7	7	7	-9
50	31	29	29	29	37	47	59	48	39	69	74	72	72	66	54	42	54	63	51
75	41	39	38	40	48	56	67	51	51	77	81	79	80	74	62	51	64	76	65
85	46	44	45	45	55	60	71	56	57	81	84	85	84	78	67	56	72	81	72
95	55	55	53	56	65	71	79	77	71	86	92	90	62	87	76	66	83	91	85
100	69	75	69	75	85	88	92	92	92	101	105	102	105	101	80	82	101	103	103
ADM***	58	36	36	37	45	57	70	57	47	80	85	85	85	76	64	46	65	73	60
COCOS ISLAND, INDIAN OCEAN																			
0	68	70	69	68	71	70	71	70	68	69	69	69	69	69	69	70	66	66	68
50	81	82	82	82	82	82	81	81	81	80	76	76	76	79	80	81	80	79	80
75	84	84	85	85	85	85	83	84	85	82	82	82	82	82	83	83	83	82	84
85	85	86	87	86	86	86	84	86	86	83	83	83	83	83	84	84	84	84	85
95	88	89	89	89	88	87	86	89	89	84	85	85	86	86	86	87	87	87	86
100	91	93	93	93	91	94	90	94	94	80	89	84	80	90	90	91	93	91	94
ADM***	85	86	87	86	86	85	84	85	86	83	82	83	83	83	84	85	84	83	84
COLD BAY, ALASKA																			
0	-6	-5	-9	-9	-7	4	21	-7	-9	29	36	35	29	30	23	8	8	8	9
50	30	29	28	29	30	34	40	34	32	46	50	52	46	48	41	35	41	45	18
75	38	37	37	38	38	42	45	44	41	51	54	58	55	52	46	41	46	54	50
85	41	39	40	40	41	45	47	48	45	53	56	60	58	54	46	43	52	58	55
95	44	44	45	45	47	51	53	54	55	56	61	67	66	58	56	48	56	67	65
100	47	49	50	50	54	60	62	62	62	66	70	78	78	64	66	54	66	78	78
ADM***	34	34	31	33	34	36	44	39	36	50	54	56	54	52	45	36	45	46	63
COLOGNE, W. GERMANY																			
0	7	-3	0	-3	15	26	31	15	-3	40	46	45	40	36	27	10	10	10	-3
50	36	34	38	37	43	50	58	50	44	63	66	65	64	59	51	43	51	58	51
75	45	45	47	47	51	56	65	60	56	69	71	70	71	65	58	51	61	66	64
85	48	48	51	50	54	60	69	65	62	72	75	74	75	69	61	54	66	74	66
95	53	53	57	57	61	68	76	76	74	80	85	81	85	76	68	61	75	85	81
100	60	58	66	66	72	81	93	93	93	92	96	96	86	88	80	66	88	96	96
ADM***	42	40	43	42	49	57	66	57	49	71	75	72	72	66	57	47	57	64	57
COLOMBO, CEYLON																			
0	63	59	61	59	64	70	69	64	59	72	71	71	71	71	69	66	66	66	56
50	79	79	80	79	81	82	83	82	80	81	81	81	81	81	80	76	80	81	80
75	82	84	84	84	85	85	86	86	85	83	83	83	83	83	83	82	83	84	85
85	84	84	86	86	87	86	87	86	87	84	84	84	84	84	84	84	85	85	88
95	87	89	90	90	91	89	89	91	91	86	86	86	86	86	86	86	87	87	91
100	91	94	96	96	96	92	91	96	96	89	86	86	89	89	89	90	93	90	96
ADM***	85	86	87	86	88	88	87	88	87	85	85	85	85	85	85	85	85	85	86
CONAKRY, FR. W. AFRICA																			
0	66	64	63	63	69	68	66	66	63	65	67	68	65	66	64	66	64	64	63
50	81	80	81	81	81	82	82	82	81	80	78	77	78	76	80	81	80	79	80
75	85	84	35	85	84	85	86	85	85	83	80	79	81	82	84	84	86	83	84
85	86	86	86	86	86	87	88	87	87	85	82	81	83	84	85	85	85	86	86
95	89	89	90	90	93	90	91	91	91	86	85	85	87	86	88	88	88	88	90
100	93	94	94	94	96	95	95	96	96	92	89	87	92	90	91	91	91	92	96
ADM***	88	88	88	88	89	90	89	89	89	86	83	82	84	85	87	87	86	85	87
COPENHAGEN, DENMARK																			
0	5	6	-3	-3	14	21	30	14	-3	37	42	40	37	29	24	13	13	13	-3
50	35	31	32	33	36	44	53	44	39	56	64	62	61	56	48	36	48	56	44
75	42	39	40	41	42	51	59	52	49	65	70	68	68	63	55	45	57	65	56
85	45	41	42	44	45	55	62	57	55	69	73	71	71	66	57	47	61	66	64
95	49	45	46	49	52	65	70	66	66	76	80	78	76	73	64	51	70	78	75
100	53	49	50	53	62	82	82	82	82	88	81	89	81	84	74	56	84	91	81
ADM***	36	36	36	37	41	50	61	51	44	67	72	66	69	63	53	43	53	61	52
CORDOBA, ARGENTINA																			
0	39	42	38	38	33	31	20	20	20	17	13	19	13	21	30	36	21	13	13
50	73	75	73	74	70	63	57	63	68	51	52	55	52	56	64	66	64	58	63
75	82	83	82	83	79	71	66	74	81	60	62	64	63	66	73	78	75	70	76
85	86	88	87	88	83	75	70	78	86	65	67	69	68	74	78	82	80	75	82
95	95	98	96	98	90	85	79	87	96	74	78	80	80	86	86	81	90	87	95
100	109	114	111	114	99	96	92	99	114	86	95	98	98	100	105	105	105	105	114
ADM***	86	68	86	87	82	75	69	75	81	64	65	69	66	73	77	82	77	72	76
CUMANA, VENEZUELA																			
0	47	47	46	46	45	51	52	45	45	53	52	53	52	53	54	51	51	51	45
50	68	66	67	67	69	71	71	70	68	70	70	70	70	71	70	66	70	70	66
75	73	70	72	72	74	75	76	76	74	74	74	74	74	75	74	73	74	74	75
85	75	72	74	75	77	78	78	79	77	76	76	76	76	77	76	75	76	76	78
95	78	77	80	80	83	82	82	84	83	80	79	80	80	80	80	76	80	80	83
100	83	83	88	88	91	89	89	91	91	86	84	86	86	85	86	84	86	86	91
ADM***	78	75	77	77	79	81	80	80	78	78	78	79	78	80	79	77	79	78	78
CURACAO, NETHERLAND ANTILLES																			
0	69	68	66	66	65	68	70	65	65	71	72	71	71	71	70	68	68	68	65
50	80	79	79	79	79	81	82	81	80	83	82	83	83	84	83	81	83	83	81
75	82	82	82	82	83	84	85	85	84	85	85	86	86	87	86	84	86	86	86
85	84	83	84	84	84	85	86	87	86	87	86	88	87	88	88	86	88	88	87
95	87	85	87	87	87	88	90	91	90	90	89	91	90	91	90	88	91	91	91
100	91	87	91	91	90	91	96	96	96	94	94	95	95	96	94	92	96	96	96
ADM***	84	83	84	84	84	86	86	85	84	87	87	88	87	89	88	86	88	87	86

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
CURITIBA, BRAZIL																			
0	58	59	60	58	60	56	50	50	50	41	44	44	41	47	51	55	47	41	41
50	76	78	79	78	77	75	71	74	76	68	77	67	71	69	71	74	71	71	75
75	81	84	84	83	82	80	76	81	83	75	84	73	78	76	77	79	78	79	82
85	85	87	86	87	85	85	80	84	86	78	87	77	81	79	80	83	82	83	86
95	92	94	92	94	92	91	87	92	94	85	91	85	89	88	89	90	90	91	94
100	104	107	102	107	104	104	97	104	107	96	96	97	99	105	104	102	104	104	107
ADM***	82	84	85	84	83	81	77	80	82	75	74	73	74	75	76	79	77	75	79
DACCA, PAKISTAN																			
0	48	45	44	44	51	62	58	51	44	67	70	71	67	70	65	54	54	54	44
50	68	67	71	68	79	83	84	82	75	84	84	84	84	84	82	75	80	82	78
75	73	77	77	75	85	88	89	89	83	88	87	87	88	88	86	80	86	88	87
85	75	75	80	78	89	91	92	92	87	89	88	88	89	89	87	83	89	90	90
95	80	80	86	84	94	97	96	98	94	93	91	91	93	93	91	87	93	94	97
100	87	88	94	94	102	105	101	105	105	98	95	96	98	98	95	94	98	98	105
ADM***	77	78	82	80	93	92	91	91	85	89	88	88	88	89	88	84	87	88	86
DAKAR, SENEGAL																			
0	55	56	58	55	59	61	61	59	55	65	69	69	65	69	70	64	64	64	55
50	74	72	72	72	71	73	74	73	73	81	82	82	81	85	83	80	82	81	77
75	77	77	76	78	76	77	81	79	79	85	86	85	86	86	86	84	86	86	84
85	82	80	77	81	80	80	83	82	83	87	88	87	88	88	88	86	88	88	88
95	87	88	87	89	90	88	87	92	93	92	92	92	93	93	93	91	93	93	96
100	95	102	100	102	109	101	100	109	109	100	99	99	100	100	101	99	101	101	109
ADM***	81	79	80	80	80	81	84	82	81	88	88	87	88	89	89	86	88	88	84
DALLAS, TEX., U. S. A.																			
0	12	2	7	2	11	31	39	11	2	53	61	61	53	36	30	17	17	17	2
50	44	46	50	48	57	66	74	66	57	82	86	86	84	73	69	56	68	76	66
75	58	57	60	59	69	75	82	78	70	89	92	92	92	83	78	65	80	89	81
85	63	62	65	64	74	79	85	83	75	92	95	95	95	92	82	69	85	94	87
95	73	73	75	75	83	86	91	91	86	97	101	101	102	98	89	78	94	102	94
100	89	88	84	89	96	96	99	99	99	105	111	109	111	105	99	89	105	111	111
ADM***	58	55	60	58	68	77	84	76	67	92	95	96	94	89	80	66	78	86	77
DAMASCUS, SYRIA																			
0	23	21	23	21	24	33	44	28	21	44	55	55	48	50	42	28	28	28	21
50	46	45	46	47	54	62	70	62	54	76	80	82	79	76	64	57	67	73	64
75	54	51	55	55	60	70	77	71	66	83	87	89	87	82	74	64	76	66	75
85	57	54	60	59	64	74	80	75	69	86	90	92	91	85	77	68	81	89	81
95	62	60	70	69	71	82	88	85	81	95	97	100	100	92	84	75	89	99	93
100	69	69	86	86	83	95	101	101	101	102	108	115	115	102	95	86	102	115	115
ADM***	56	55	57	55	65	75	84	75	65	91	96	99	95	91	81	67	80	67	76
DARWIN, AUSTRALIA																			
0	69	64	69	64	60	66	60	60	60	56	56	56	56	63	69	69	63	56	56
50	85	84	84	84	84	84	82	83	84	79	77	80	76	83	85	86	85	81	83
75	89	88	87	88	88	89	88	89	89	84	82	85	84	88	89	90	90	88	89
85	91	90	89	90	90	91	90	92	92	87	85	87	86	90	92	92	92	91	92
95	96	96	96	95	95	96	95	97	97	92	90	92	92	95	97	97	98	97	97
100	102	100	101	102	102	104	102	104	104	99	94	98	99	102	105	103	105	105	105
ADM***	92	90	90	91	91	92	91	91	91	88	87	89	88	91	93	94	93	90	91
DENVER, COLO., U. S. A.																			
0	-11	-24	-30	-30	-11	6	22	-11	-30	30	45	41	30	24	4	-8	-9	-6	-30
50	32	29	32	31	38	46	56	47	39	66	73	71	70	63	52	39	51	61	50
75	43	42	47	45	50	58	66	61	56	74	81	79	80	72	62	51	65	76	68
85	48	47	52	51	55	62	70	67	63	80	84	83	84	76	67	56	71	82	75
95	58	58	63	62	65	71	80	80	77	90	92	90	93	84	76	66	81	92	88
100	74	77	76	76	80	86	96	96	96	104	104	101	104	95	84	79	95	104	104
ADM***	43	42	45	44	51	61	69	60	52	81	87	85	84	77	66	55	65	75	63
DETROIT, MICH., U. S. A.																			
0	-5	-9	-16	-16	-1	16	30	-1	-16	34	44	41	34	32	25	7	7	7	-16
50	30	26	27	27	35	46	58	46	37	64	73	71	71	64	53	40	52	62	49
75	36	36	38	38	45	55	66	59	51	76	80	79	79	73	61	49	64	75	65
85	42	40	43	43	51	60	70	64	57	80	84	82	83	77	65	54	70	80	72
95	51	51	53	53	63	70	79	76	72	90	92	90	92	86	74	64	82	91	86
100	64	67	60	68	82	87	93	93	93	104	105	101	105	100	89	81	100	105	105
ADM***	36	35	34	34	43	58	68	56	45	78	84	81	81	74	62	47	61	71	58
DHAHRAN, SAUDI ARABIA																			
0	49	41	45	41	51	56	66	51	41	70	75	75	70	71	66	58	58	58	41
50	64	63	65	64	69	77	85	77	70	89	92	93	91	89	83	76	82	87	78
75	68	68	70	70	74	83	90	84	78	94	97	97	97	93	87	80	89	94	88
85	71	71	74	73	77	86	93	88	83	97	99	100	99	96	89	83	92	97	92
95	77	76	81	81	84	93	99	96	92	102	104	105	105	102	95	88	100	104	101
100	88	85	94	94	95	105	108	108	108	111	112	115	115	112	103	97	112	115	115
ADM***	67	68	70	68	75	84	92	84	76	96	99	100	98	96	90	82	89	94	85
DJAKARTA, INDONESIA																			
0	67	69	69	67	69	69	70	69	67	67	67	67	67	66	69	68	66	66	66
50	80	79	79	79	80	81	81	81	80	81	80	80	80	81	81	80	81	80	80
75	83	82	82	82	83	84	84	84	83	84	83	83	84	85	84	83	84	84	84
85	84	83	83	84	84	86	85	85	85	85	85	85	85	87	86	85	86	86	86
95	88	87	87	88	87	89	88	89	89	89	88	89	89	90	90	89	91	91	91
100	93	93	92	93	92	94	93	94	94	93	92	94	94	96	98	96	98	98	98
ADM***	85	86	86	86	86	87	87	87	85	87	87	87	87	88	87	86	87	87	86
DOHA, SAUDI ARABIA																			
0	49	41	45	41	51	56	66	51	41	70	75	75	70	71	66	58	58	58	41
50	64	63	65	64	69	77	85	77	70	89	92	93	91	89	83	76	82	87	78
75	68	68	70	70	74	83	90	84	78	94	97	97	97	93	87	80	89	94	88
85	71	71	74	73	77	86	93	88	83	97	99	100	99	96	89	83	92	97	92
95	77	76	81	81	84	93	99	96	92	102	104	105	105	102	95	88	100	104	101
100	88	85	94	94	95	105	108	108	108	111	112	115	115	112	103	97	112	115	115
ADM***	67	68	70	68	75	84	92	84	76	96	99	100	98	96	90	82	89	94	85

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
DURBAN, U. SO. AFRICA																			
0	56	57	59	56	58	51	44	44	44	41	39	41	39	46	50	51	46	39	39
50	73	75	75	74	74	71	66	70	72	63	62	64	63	66	69	71	69	66	69
75	77	80	79	79	78	77	72	77	79	69	68	70	69	73	73	77	74	74	77
85	79	82	81	81	80	80	76	81	83	72	72	73	73	77	75	80	80	78	82
95	84	86	84	86	84	87	83	86	89	79	80	79	80	88	80	89	90	89	91
100	90	92	89	92	90	99	95	99	99	90	92	89	92	107	87	102	107	107	107
ADM***	79	81	81	80	80	78	75	78	79	73	72	72	72	73	75	77	75	74	76
DUSSELDORF, W. GERMANY																			
0	7	-3	0	-3	13	26	31	13	-3	40	46	45	40	36	27	10	10	10	-3
50	38	36	38	37	43	50	58	50	44	63	66	65	64	59	51	43	51	58	51
75	45	45	47	47	51	56	65	60	56	69	71	70	71	65	58	51	61	69	64
85	48	48	51	50	54	60	69	65	62	72	75	74	75	69	61	54	66	74	67
95	53	53	57	57	61	68	78	76	74	80	83	81	83	76	68	61	75	83	81
100	60	58	66	66	72	81	93	93	93	92	96	96	96	88	80	69	88	96	96
ADM***	42	40	43	42	49	57	66	57	49	71	73	72	72	66	57	47	57	64	57
EAST LONDON, U. SO. AFRICA																			
0	52	55	52	52	53	45	40	40	40	39	37	38	37	43	47	49	43	37	37
50	69	71	72	70	70	67	64	67	68	61	60	61	61	63	65	67	65	63	66
75	73	75	77	76	75	73	71	74	76	67	67	68	68	70	71	72	72	71	74
85	76	77	80	79	78	76	74	77	80	70	70	72	72	75	75	76	76	75	78
95	83	82	87	86	86	85	82	84	87	77	79	82	82	86	85	84	87	87	89
100	94	91	99	99	96	96	95	95	99	89	92	98	98	106	103	98	106	106	106
ADM***	75	77	78	77	77	74	73	75	76	70	70	70	70	71	71	73	72	71	73
EDMONTON, ALBERTA, CANADA																			
0	-55	-57	-57	-57	-40	-15	10	-40	-57	25	29	26	25	11	-15	-44	-44	-44	-57
50	12	8	11	10	23	40	52	34	26	58	63	60	60	51	41	24	39	49	37
75	27	23	27	26	39	53	62	57	44	67	72	68	69	61	54	40	57	70	58
85	34	29	34	33	45	59	68	64	53	72	76	73	74	65	59	47	64	77	67
95	44	41	44	45	57	72	78	77	70	82	85	82	86	75	70	59	76	88	81
100	61	57	62	62	72	90	94	96	96	99	98	96	99	90	83	74	90	99	99
ADM***	20	17	21	19	33	51	64	49	34	70	75	72	72	63	52	33	49	61	47
EL ADEM, TOBRUK, LIBYA																			
0	33	32	33	32	33	41	47	33	32	54	58	59	54	54	50	41	41	41	32
50	55	53	55	54	58	64	71	64	59	76	78	78	77	76	70	63	69	73	68
75	61	58	61	61	66	71	78	73	68	83	84	84	84	82	75	69	77	82	76
85	64	61	63	65	70	75	82	78	73	88	87	87	88	85	79	72	81	86	81
95	71	67	74	74	80	85	91	89	85	95	96	95	96	93	87	79	90	95	92
100	81	75	89	89	97	101	106	106	106	109	109	109	109	105	101	90	105	109	109
ADM***	65	63	65	64	69	75	83	76	70	87	88	88	88	86	80	73	80	84	77
EL PASO, TEX., U. S. A.																			
0	5	-6	8	-6	18	28	38	18	-6	50	60	59	50	41	32	16	16	16	-6
50	45	43	49	46	55	63	72	63	54	80	81	80	80	75	65	52	64	72	63
75	54	53	59	58	64	72	80	74	69	84	87	85	88	83	73	61	70	85	79
85	58	59	63	62	68	76	84	79	75	91	90	88	91	87	77	65	81	90	85
95	63	66	71	71	76	84	92	90	88	98	97	96	98	94	84	73	90	98	95
100	75	75	81	81	88	95	106	106	106	107	107	103	107	103	93	84	103	107	107
ADM***	57	56	62	58	68	77	85	77	68	94	94	92	93	87	78	66	77	85	74
ENTEBBE, UGANDA																			
0	57	57	57	57	57	59	59	57	57	58	56	56	56	57	57	58	57	55	56
50	71	72	72	72	72	72	71	72	72	70	69	70	70	70	71	72	71	70	71
75	75	76	76	76	76	75	74	76	76	73	73	73	73	74	75	75	75	75	75
85	76	78	78	78	76	76	75	78	78	75	74	75	75	76	76	77	77	77	78
95	80	82	83	83	83	79	74	83	83	78	78	78	79	80	80	82	81	82	83
100	85	89	90	90	91	83	82	91	91	86	82	86	86	87	85	89	89	89	91
ADM***	79	80	80	80	79	78	77	78	79	77	76	77	77	78	79	79	79	78	78
FORTALEZA, BRAZIL																			
0	68	68	69	68	69	69	68	68	68	67	69	70	67	66	70	71	66	66	66
50	81	81	80	80	80	80	81	80	80	81	80	81	81	81	81	81	81	81	80
75	84	84	87	84	83	83	84	83	84	84	83	83	84	85	84	84	85	85	84
85	86	85	84	85	85	84	85	85	85	86	84	85	85	86	85	85	86	86	86
95	90	87	87	89	88	87	88	89	89	88	88	88	89	90	88	88	90	90	90
100	95	91	91	95	96	91	93	96	95	92	93	92	93	95	93	93	95	95	95
ADM***	87	86	85	86	86	86	87	86	86	88	87	87	87	87	87	87	87	87	87
FT. DE FRANCE, MARTINIQUE																			
0	61	59	60	59	56	63	66	56	56	66	68	66	66	68	65	66	66	66	56
50	78	76	77	77	77	79	80	79	78	80	80	81	80	81	80	79	80	80	79
75	81	80	81	81	82	82	84	84	83	83	83	84	84	85	84	83	84	84	84
85	83	82	82	83	84	84	85	86	85	85	86	86	85	86	85	84	86	86	86
95	86	85	86	86	87	88	88	89	89	88	87	89	89	90	89	88	90	90	91
100	89	90	91	91	91	94	93	94	94	92	90	94	96	96	94	92	96	96	96
ADM***	84	83	84	84	85	86	87	86	85	86	86	87	86	88	87	86	87	87	86
FT. LAUDERDALE, FLA., U. S. A.																			
0	29	30	28	28	32	40	49	32	28	57	65	66	57	63	44	35	35	35	28
50	70	69	68	69	70	74	77	74	71	80	82	82	81	81	78	73	77	79	75
75	78	77	77	78	79	82	84	83	81	86	86	87	87	86	85	81	87	89	86
85	81	80	80	81	82	85	86	86	85	88	88	89	90	88	88	83	70	92	89
95	86	84	85	86	88	90	91	92	91	92	92	93	94	93	92	87	95	97	95
100	90	88	90	90	94	97	96	97	97	97	99	100	100	99	95	90	99	100	100
ADM***	79	78	78	78	80	83	86	83	80	89	90	91	90	89	86	81	85	87	84
FRANKFURT, W. GERMANY																			
0	0	-4	-7	-7	13	24	30	13	-7	40	43	44	40	35	21	9	9	9	-7
50	35	33	37	35	42	50	58	50	42	63	66	65	64	59	50	41	50	57	50
75	43	41	47	45	50	57	65	60	55	69	72	71	71	66	57	48	61	69	64
85	47	45	50	49	54	61	69	65	61	72	76	74	75	70	61	52	66	74	70
95	53	50	58	56	62	70	79	76	74	80	85	83	85	79	68	58	77	85	82
100	62	57	66	66	75	84	94	94	94	93	100	94	100	95	80	68	95	100	100
ADM***	39	37	42	39	49	58	67	58	49	72	75	74	74	67	56	45	56	65	57

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
FREETOWN, SIERRE LEONE																			
0	62	62	67	62	70	70	70	70	62	69	69	67	67	68	69	69	68	67	62
50	80	80	81	80	82	82	81	82	81	79	78	77	78	78	79	80	79	78	80
75	84	84	85	85	84	85	84	85	86	82	80	79	81	80	81	82	81	81	84
85	86	86	86	87	86	87	85	87	88	83	81	81	82	82	82	83	83	83	86
95	88	89	90	93	88	91	87	91	92	86	84	83	85	84	85	86	86	86	91
100	91	92	96	96	92	98	91	98	98	90	88	86	90	87	93	90	90	90	98
ADM***	87	87	88	87	88	88	87	88	87	85	82	81	83	83	85	86	85	84	86
FROBISHER BAY, N. W. T., CAN.																			
0	-44	-49	-49	-49	-43	-29	-15	-43	-49	17	30	30	17	5	-6	-32	-32	-32	-49
50	-4	-16	-15	-12	-6	6	24	8	-2	38	46	45	43	35	24	12	24	35	16
75	7	-6	-5	-1	5	15	34	21	11	44	51	47	50	43	31	23	36	48	32
85	11	-0	1	5	10	19	38	27	18	48	54	53	54	45	34	26	41	54	39
95	21	11	15	17	21	28	46	39	33	56	62	60	62	51	37	34	49	64	54
100	34	34	38	38	39	41	56	56	56	71	76	74	76	57	45	47	57	76	76
ADM***	2	-2	-8	-5	3	14	31	16	5	43	53	50	49	40	29	18	29	39	22
FUKUOKA, JAPAN																			
0	26	22	24	22	26	34	42	26	22	53	52	63	53	52	41	33	33	33	22
50	47	43	43	44	49	58	65	57	51	72	79	81	77	75	65	56	65	71	61
75	52	48	49	50	55	64	71	65	59	77	84	84	83	80	71	62	73	80	71
85	56	51	52	54	58	67	73	66	62	79	88	88	86	82	74	65	77	84	75
95	63	59	60	62	65	71	78	75	71	85	90	92	91	87	79	71	84	90	85
100	75	70	73	75	76	82	85	85	85	94	96	98	96	94	87	81	94	98	98
ADM***	53	47	50	51	57	66	73	65	58	78	85	88	84	81	72	63	72	76	66
GANDER, CANADA																			
0	-5	-31	-15	-15	-14	4	22	-14	-15	28	36	30	28	31	22	6	6	6	-33
50	25	19	17	20	25	31	44	34	27	52	62	61	58	53	44	34	44	51	39
75	32	27	26	29	34	42	53	46	38	59	69	69	67	60	50	42	54	63	53
85	36	31	30	33	38	48	58	51	44	64	73	72	71	63	54	46	58	68	60
95	43	40	40	42	40	55	63	62	57	74	82	79	81	71	62	54	64	79	74
100	55	53	55	55	50	71	74	76	78	91	96	89	96	84	76	67	84	96	96
ADM***	30	20	25	27	32	40	53	41	34	62	72	69	67	61	51	40	53	59	47
GAYA, INDIA																			
0	42	40	44	40	52	62	87	52	40	65	72	71	65	71	60	50	50	50	40
50	65	64	64	64	80	89	94	87	76	92	87	85	88	85	81	71	79	63	79
75	70	70	73	73	87	96	100	96	85	98	91	88	94	86	80	77	86	92	89
85	73	71	71	76	90	99	101	99	90	101	96	90	97	93	88	79	89	96	94
95	79	80	82	82	97	105	104	107	100	108	100	95	105	94	93	85	94	104	103
100	88	89	95	95	107	111	110	116	110	117	110	102	117	101	99	94	101	117	117
ADM***	77	74	81	78	91	102	106	100	89	101	94	90	95	91	90	84	88	92	90
GENEVA, SWITZERLAND																			
0	5	3	-1	-1	10	21	29	10	-1	36	42	41	36	32	20	17	17	17	-1
50	36	36	37	35	41	50	57	50	43	64	68	67	66	61	53	42	51	59	51
75	43	42	44	44	51	57	65	60	54	72	75	71	74	68	59	49	60	69	64
85	47	45	50	48	55	60	64	65	60	75	79	77	78	72	62	53	65	74	70
95	56	52	57	57	66	68	78	75	71	83	87	85	87	79	69	61	75	85	82
100	64	62	68	68	76	83	87	89	89	96	103	97	101	91	78	76	91	101	101
ADM***	40	39	41	41	51	58	68	58	49	73	77	76	75	69	58	47	58	67	58
GEORGETOWN, BR. GUIANA																			
0	70	68	69	68	69	73	70	69	68	69	73	71	69	69	73	69	69	69	68
50	80	79	79	79	80	81	80	80	80	80	80	81	80	82	82	81	83	83	80
75	82	82	82	82	82	83	81	83	82	83	83	83	83	85	84	84	84	84	83
85	83	81	83	83	83	84	84	84	84	84	84	84	84	86	86	85	86	85	85
95	86	85	85	86	86	88	86	86	86	86	86	86	87	89	89	88	88	88	89
100	90	88	89	90	89	90	90	90	90	89	90	90	90	93	93	91	93	93	93
ADM***	84	86	86	86	84	85	85	85	84	85	85	86	85	87	87	86	87	86	85
GIBRALTAR, GIBRALTAR																			
0	36	36	33	33	38	47	47	38	33	57	58	57	57	57	50	46	46	46	33
50	58	55	58	58	60	63	67	61	59	72	76	77	75	73	69	62	68	71	65
75	61	60	61	62	65	67	72	69	66	78	81	82	80	77	76	67	76	79	76
85	65	62	63	66	67	69	76	72	70	78	81	85	83	80	78	69	76	82	78
95	69	67	68	69	73	76	79	78	77	83	90	90	90	86	82	75	83	89	87
100	75	76	75	75	80	82	87	87	87	91	101	99	103	92	92	86	92	101	101
ADM***	62	60	62	61	65	69	73	69	65	79	83	84	82	80	74	67	74	78	71
GLASGOW, SCOTLAND																			
0	12	0	31	0	7	19	23	7	0	29	35	33	29	25	17	10	16	16	0
50	40	39	40	39	42	48	51	46	43	50	59	58	58	56	49	42	48	53	48
75	46	47	46	48	50	52	58	56	53	63	65	65	65	61	56	49	58	62	59
85	48	49	48	50	54	55	63	60	58	68	68	68	68	66	59	51	60	66	64
95	53	53	52	55	61	62	68	68	67	74	75	74	75	70	66	56	67	74	73
100	58	56	56	58	70	73	79	79	79	88	88	88	88	77	74	62	77	88	88
ADM***	43	43	44	43	48	53	59	51	46	64	66	65	65	61	56	47	56	60	56
GOOSE BAY, NFLD., CANADA																			
0	-25	-32	-35	-35	-32	-13	10	-32	-35	30	38	32	30	20	11	-9	-9	-9	-35
50	9	0	5	5	16	28	41	28	16	52	62	58	57	53	38	25	38	47	32
75	19	9	15	15	27	38	50	44	31	58	69	65	65	59	46	33	50	62	49
85	24	16	20	21	31	42	55	51	39	62	73	69	70	53	50	37	55	68	57
95	35	25	30	33	40	51	68	66	58	72	83	77	81	71	59	46	67	81	74
100	53	42	40	53	51	62	89	89	89	89	100	91	100	84	73	58	84	100	100
ADM***	16	8	14	13	25	37	49	37	25	61	71	67	66	59	45	31	45	56	40
GRAND CAYMAN, B. W. I.																			
0	57	57	59	57	58	63	65	58	57	68	66	68	66	64	65	62	62	62	57
50	78	77	77	77	77	79	80	78	78	82	82	82	82	81	81	79	80	81	79
75	83	81	81	82	82	82	83	83	83	85	85	85	85	85	84	83	85	85	85
85	85	83	83	84	84	84	85	85	85	87	87	87	87	86	86	85	87	87	87
95	90	87	87	89	88	88	89	89	90	90	91	91	91	90	90	90	91	91	91
100	96	93	92	96	93	93	94	94	96	95	96	97	97	96	96	96	96	97	97
ADM***	87	86	86	86	86	87	87	87	86	89	90	90	90	89	88	87	88	89	88

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
GRENADA, B. W. I.																			
0	60	57	57	57	56	60	57	56	56	60	52	60	52	56	61	61	56	52	52
50	78	76	77	77	77	79	80	78	77	79	79	79	79	80	80	79	79	79	79
75	82	81	81	82	85	85	85	84	85	84	85	85	85	85	84	85	85	86	85
85	84	85	84	84	85	86	87	87	86	86	87	85	87	88	86	85	88	88	88
95	89	88	88	89	91	91	92	92	91	90	92	89	92	95	91	89	95	94	95
100	97	96	95	97	93	93	98	99	99	97	97	95	97	101	98	95	101	101	101
ADM***	86	85	86	86	87	88	87	88	87	87	87	87	87	88	88	87	88	87	87
GUAM, S. W. PACIFIC																			
0	70	68	67	67	68	71	71	68	67	72	70	71	70	70	69	69	69	69	67
50	81	80	79	80	80	82	83	81	80	83	81	81	82	81	81	82	81	81	81
75	83	82	82	83	83	84	85	85	84	85	84	84	85	84	84	84	84	85	84
85	85	85	83	84	84	85	87	86	86	87	85	85	86	85	85	86	85	86	86
95	88	86	86	87	87	88	93	89	89	90	88	87	89	87	88	88	88	89	89
100	92	89	93	92	90	92	94	94	94	94	92	91	94	91	91	90	91	94	94
ADM***	85	84	84	84	85	87	88	87	85	88	86	86	87	86	86	86	86	86	86
GUATEMALA CITY, GUATEMALA																			
0	41	41	41	41	41	47	52	41	41	52	51	52	51	56	50	44	44	44	41
50	64	65	66	66	69	70	72	70	67	71	69	70	70	70	68	66	68	69	68
75	69	69	71	70	75	76	77	77	76	76	75	76	76	75	72	71	75	75	75
85	71	71	75	72	78	78	79	80	76	77	75	75	76	75	76	75	75	77	77
95	76	77	78	78	82	85	85	84	82	85	79	79	80	78	78	77	79	81	85
100	85	86	85	86	86	90	83	90	90	86	86	85	86	83	83	85	85	86	90
ADM***	72	75	77	76	81	82	84	82	78	81	78	79	79	79	76	76	76	76	78
GUAYAQUIL, ECUADOR																			
0	65	67	66	65	66	69	65	66	66	66	62	62	62	57	62	61	57	57	57
50	79	79	79	79	80	80	79	79	79	78	78	76	76	77	77	78	77	77	78
75	85	82	82	83	84	85	82	85	85	81	79	79	80	81	81	82	82	82	85
85	85	84	84	85	85	86	86	85	86	85	81	81	82	85	85	86	86	86	86
95	90	89	88	90	88	88	84	83	90	87	85	85	87	87	87	88	86	88	91
100	93	94	95	94	92	93	95	95	98	94	91	92	94	95	94	94	96	94	98
ADM***	88	88	87	88	88	89	84	86	88	87	84	85	86	87	85	88	87	86	87
HAMBURG, GERMANY																			
0	-4	-1	2	-6	10	22	30	10	-6	41	45	42	41	36	25	7	7	7	-6
50	35	32	34	35	34	45	34	45	39	60	65	61	61	57	49	60	47	55	47
75	45	39	41	42	45	52	61	55	51	64	68	67	67	65	55	48	53	66	60
85	40	42	44	45	44	56	66	60	57	69	71	70	71	67	58	51	65	71	65
95	51	48	51	51	56	66	76	71	69	78	79	77	79	76	84	56	75	80	76
100	55	56	59	57	64	82	49	49	49	92	92	90	92	86	75	65	86	92	92
ADM***	34	35	37	37	42	51	60	51	44	67	69	67	68	65	55	44	55	60	52
HAVANA, CUBA																			
0	51	50	50	50	55	55	59	55	50	64	66	68	66	67	65	55	55	55	50
50	75	72	72	72	76	77	74	77	76	81	82	82	82	82	79	75	79	80	77
75	78	77	77	78	74	82	84	82	80	85	86	86	86	85	85	80	84	86	84
85	80	79	80	80	81	84	85	84	85	87	87	87	87	87	85	82	86	88	86
95	86	86	86	85	85	88	89	89	89	90	90	90	91	90	89	86	90	92	91
100	89	89	91	91	91	96	96	96	96	96	95	95	96	96	96	91	96	96	96
ADM***	79	79	79	79	81	84	86	86	81	88	89	89	89	86	85	81	85	87	86
HELSINKI, FINLAND																			
0	-18	-25	-21	-25	-18	7	22	-10	-25	31	42	37	31	28	36	-6	-6	-6	-25
50	27	22	21	25	27	37	48	37	30	56	54	61	60	52	41	36	42	51	45
75	36	32	30	35	37	45	55	50	45	65	70	67	68	57	47	42	55	64	56
85	39	35	35	36	41	48	58	55	49	65	75	69	71	60	50	44	57	69	62
95	44	41	39	42	47	55	65	65	61	76	79	75	78	86	56	48	65	76	76
100	47	47	46	47	55	57	77	77	77	85	89	86	89	76	60	50	76	83	89
ADM***	31	27	25	28	32	45	55	45	36	65	71	66	67	57	45	37	40	56	44
HONG KONG, HONG KONG																			
0	41	32	38	32	45	52	60	45	32	67	72	72	67	65	57	44	44	44	32
50	64	60	59	61	64	71	78	71	66	82	85	85	82	81	77	70	76	77	72
75	69	66	66	68	68	74	82	77	76	85	85	84	86	85	82	75	85	87	82
85	71	67	67	70	71	78	86	80	77	87	87	87	88	87	86	78	85	89	85
95	76	76	72	76	76	82	87	85	85	90	90	91	92	90	88	81	90	95	91
100	82	79	79	82	85	89	91	91	91	96	96	97	97	96	96	86	96	97	97
ADM***	64	64	65	65	67	75	82	75	70	85	87	87	86	85	81	76	80	85	76
HONOLULU, HAWAII, U. S. A.																			
0	55	54	52	52	55	59	60	55	52	65	65	65	65	65	65	59	59	59	52
50	74	75	72	75	72	75	75	75	75	77	78	79	78	78	77	75	77	77	75
75	78	77	76	77	76	77	79	78	78	80	81	82	81	81	81	79	81	81	80
85	79	78	78	79	78	78	80	80	80	81	82	83	82	83	82	80	83	83	82
95	82	81	81	82	81	81	83	83	83	84	85	86	85	85	85	85	86	86	86
100	85	84	84	85	84	86	87	87	87	88	88	88	88	88	90	86	90	90	90
ADM***	78	76	76	77	77	78	80	78	77	81	82	83	82	83	82	80	82	82	80
HOUSTON, TEX., U. S. A.																			
0	20	10	14	10	21	39	46	21	10	57	68	65	57	45	37	29	29	29	10
50	56	54	58	56	65	70	76	69	65	82	84	84	83	80	75	62	71	77	70
75	64	64	68	67	75	77	83	80	75	88	88	89	90	88	81	70	81	88	83
85	68	68	72	71	77	80	85	84	79	90	91	92	92	90	84	75	85	92	88
95	74	74	80	79	85	85	90	90	87	94	96	96	98	95	90	80	91	98	96
100	83	82	90	90	96	92	95	96	96	99	105	105	105	99	97	89	99	105	105
ADM***	64	62	66	64	71	78	85	78	71	90	92	95	92	89	82	71	81	66	79
HYDERABAD, INDIA																			
0	46	47	52	46	60	61	67	60	46	64	67	67	64	64	57	46	46	46	46
50	72	72	77	74	84	89	92	88	81	86	80	80	82	80	79	74	77	79	80
75	78	78	83	80	83	95	98	95	89	91	84	84	87	84	84	80	84	88	89
85	81	81	85	84	92	98	101	98	95	94	86	86	91	86	86	82	87	92	95
95	86	87	91	90	98	105	105	104	101	101	91	90	98	90	91	87	92	100	101
100	92	95	99	99	106	110	112	112	112	111	99	97	111	97	97	92	97	111	112
ADM***	85	84	89	85	97	101	104	101	95	95	87	87	90	87	88	84	86	68	90

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
ISTANBUL, TURKEY																			
0	17	18	20	17	21	32	38	21	17	48	56	53	48	47	35	25	25	25	17
50	46	41	42	45	46	55	61	55	48	69	73	74	72	68	61	54	61	66	57
75	55	47	48	50	55	60	67	62	57	75	78	79	78	74	67	60	70	78	68
85	56	50	51	55	57	65	71	67	62	78	81	82	81	78	70	65	75	80	75
95	62	56	58	60	66	76	80	78	75	86	88	89	89	86	76	69	85	89	84
100	70	66	69	70	82	95	94	95	95	99	100	100	100	100	85	77	100	100	100
ADM***	51	45	47	48	52	61	68	60	54	77	81	81	80	75	67	59	67	73	64
JIDDA, SAUDI ARABIA																			
0	50	49	52	49	55	54	55	54	49	67	70	73	67	70	68	63	65	63	49
50	77	75	75	75	76	81	85	80	78	86	89	90	88	87	84	81	84	86	82
75	83	81	80	82	82	87	92	87	85	92	94	94	94	91	89	86	89	95	91
85	85	83	85	84	85	90	95	90	89	95	96	96	97	94	91	89	92	96	95
95	89	87	88	89	91	98	100	97	97	103	101	101	105	99	96	95	98	104	104
100	93	92	95	95	101	104	108	108	108	117	108	108	117	108	105	105	108	117	117
ADM***	86	84	84	85	85	91	95	90	87	97	99	99	98	96	95	91	94	96	92
JOHANNESBURG, U. SO. AFRICA																			
0	42	42	45	42	41	30	22	22	22	19	19	20	19	27	32	35	27	19	19
50	68	68	68	68	65	61	55	60	64	57	51	56	52	61	65	64	64	58	61
75	74	74	73	74	71	68	62	69	74	58	59	64	60	68	73	74	73	68	71
85	77	77	76	77	74	71	65	73	77	61	61	67	64	72	78	77	76	72	75
95	83	83	82	83	80	77	71	79	84	68	67	72	70	78	82	84	84	81	83
100	92	91	91	92	88	85	78	88	92	75	74	79	79	86	90	93	93	93	93
ADM***	78	78	77	78	75	72	66	71	74	62	65	68	64	75	77	77	78	70	72
JOHNSTON ISLAND, P. OCEAN																			
0	57	56	58	56	56	57	59	56	56	58	61	61	58	59	60	58	58	58	56
50	72	71	71	71	71	72	73	72	71	74	75	75	75	75	75	74	75	75	73
75	78	75	74	75	75	75	77	76	76	78	79	79	79	79	79	77	79	79	77
85	78	77	78	78	77	77	78	78	78	79	80	80	80	81	80	79	80	80	79
95	83	81	81	82	82	81	82	82	83	82	83	83	84	84	84	83	84	84	84
100	90	87	87	90	89	86	88	89	90	86	88	88	88	88	89	89	89	89	90
ADM***	79	78	78	78	78	78	80	79	78	81	82	82	82	82	82	81	82	82	80
KANO, NIGERIA																			
0	45	45	48	45	50	57	62	50	45	62	62	61	61	62	58	51	51	51	45
50	72	71	75	72	73	88	87	83	77	84	80	78	80	79	81	77	79	79	78
75	79	78	83	81	80	96	95	91	88	89	84	82	84	84	87	84	84	87	88
85	84	82	87	85	94	99	98	95	91	92	88	84	88	86	90	87	89	90	92
95	94	91	96	95	94	105	102	102	100	97	91	89	95	91	96	95	97	97	101
100	110	108	110	110	112	114	111	114	114	105	98	97	105	100	106	108	108	108	114
ADM***	87	84	91	88	98	101	99	99	94	94	88	85	89	88	94	92	91	90	92
KANSAS CITY, MO., U. S. A.																			
0	-4	-15	-15	-15	-5	16	32	-5	-15	44	54	49	44	34	24	5	5	5	-15
50	34	30	35	33	44	58	68	55	44	75	81	79	78	71	60	44	58	68	56
75	44	41	48	44	58	66	74	69	59	84	89	87	87	80	69	54	72	83	75
85	48	47	51	50	61	70	79	75	66	87	92	91	91	85	74	59	78	89	80
95	59	58	62	60	72	79	88	87	81	94	100	100	100	94	83	69	91	100	94
100	74	75	78	78	89	91	103	103	103	106	112	115	115	109	98	83	109	115	115
ADM***	42	39	44	42	56	66	75	65	55	85	91	89	89	81	70	54	68	78	66
KARACHI, PAKISTAN																			
0	39	40	43	39	47	57	65	47	39	68	73	73	68	69	57	48	48	48	39
50	69	68	69	68	76	82	86	81	76	88	86	84	86	83	82	78	80	83	79
75	78	72	75	75	84	88	92	90	86	93	90	87	91	87	88	82	88	91	89
85	78	75	78	78	87	92	98	95	89	96	93	88	94	89	91	85	91	95	93
95	80	81	80	84	93	99	104	104	100	103	99	92	102	95	98	91	98	105	105
100	91	89	93	93	106	111	118	118	118	114	110	99	114	108	104	100	108	114	118
ADM***	80	77	79	79	85	90	93	89	86	93	91	88	91	88	91	87	89	90	87
KEFLAVIK, ICELAND																			
0	4	5	4	4	4	13	19	4	4	32	39	34	32	27	14	10	10	10	4
50	34	32	31	33	35	38	45	39	36	50	53	52	52	47	40	38	41	46	41
75	41	34	39	40	41	44	51	47	44	54	57	57	57	52	46	41	48	55	50
85	45	41	41	42	44	47	53	50	47	56	60	59	59	54	48	44	52	58	54
95	49	45	45	47	50	52	58	58	54	61	65	64	65	60	53	48	58	65	62
100	53	50	50	55	58	59	64	64	64	69	74	71	74	68	58	53	68	74	74
ADM***	38	36	37	37	39	43	50	44	41	55	58	57	57	51	44	39	45	51	46
KETCHIKAN, ALASKA, U. S. A.																			
0	0	-4	2	-8	9	17	25	9	-8	28	38	34	28	28	21	10	10	10	-8
50	36	35	36	36	39	43	49	44	40	55	58	59	57	54	47	41	48	52	48
75	44	45	44	45	48	51	57	54	52	64	65	66	66	61	54	48	57	64	60
85	48	48	47	49	50	54	62	59	59	68	68	69	70	64	57	51	61	69	66
95	53	54	53	55	58	62	75	72	72	79	77	77	80	71	65	57	69	80	78
100	60	61	61	61	69	72	93	93	93	96	92	88	96	80	72	65	80	96	96
ADM***	41	40	41	41	45	50	57	51	48	63	65	66	65	61	53	46	53	59	52
KHARTOUM, SUDAN																			
0	45	41	44	41	49	53	61	49	41	67	65	64	64	61	62	55	55	55	41
50	77	75	77	76	85	89	92	88	82	94	89	87	90	90	90	85	87	88	85
75	85	85	88	85	91	97	99	97	92	100	95	93	97	96	96	89	95	97	94
85	88	86	90	89	95	101	103	101	96	103	99	95	100	99	99	92	98	100	100
95	95	94	98	98	103	108	109	108	105	109	106	101	107	105	105	98	105	108	108
100	104	106	111	111	113	117	117	117	117	118	117	109	118	113	113	107	113	118	118
ADM***	92	90	95	92	100	105	107	104	98	106	101	98	102	102	104	97	101	101	100
KIMBERLEY, U. SO. AFRICA																			
0	45	44	45	45	40	30	23	23	23	22	20	21	20	25	31	36	25	20	20
50	75	78	76	76	71	65	57	64	70	51	51	56	55	62	69	72	67	60	65
75	83	85	83	84	78	73	65	74	81	59	58	65	61	70	78	81	77	70	76
85	86	89	87	87	82	76	68	78	85	62	62	68	65	74	81	84	81	75	81
95	93	95	93	94	88	83	76	86	93	70	69	76	73	82	89	91	89	85	90
100	103	103	101	103	96	93	86	96	103	82	79	86	86	93	99	99	99	99	103
ADM***	89	91	88	89	83	77	70	77	83	65	65	71	67	76	83	86	82	74	79

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
KINGSTON, JAMAICA																			
0	57	57	59	57	58	65	66	58	57	68	66	68	66	68	65	62	62	62	57
50	78	77	77	77	77	79	80	78	78	82	82	82	82	81	81	79	80	81	79
75	83	81	81	82	82	82	83	83	83	85	85	85	85	85	84	83	85	85	85
85	85	83	83	84	84	84	85	85	85	87	87	87	87	86	86	85	87	87	87
95	90	87	87	89	88	88	88	89	90	90	91	91	91	90	90	90	91	91	91
100	96	93	92	96	93	93	94	94	96	95	96	97	97	96	96	96	96	97	97
ADM***	87	86	86	86	86	87	87	87	86	89	90	90	90	89	88	87	88	89	88
KISUMU, KENYA																			
0	56	57	57	56	60	60	60	60	56	55	56	54	54	54	55	55	54	54	54
50	74	75	75	75	75	74	73	74	74	72	72	72	72	73	75	75	74	73	74
75	79	80	80	80	79	78	77	78	79	76	76	77	77	78	80	80	79	78	79
85	82	82	83	83	82	81	79	81	82	78	78	80	80	80	82	82	82	81	82
95	88	88	89	88	88	87	84	87	88	82	83	86	86	85	87	87	87	87	88
100	98	97	98	98	98	98	93	98	98	89	91	97	97	93	94	95	95	97	98
ADM***	84	85	84	84	83	82	81	82	83	80	80	81	80	83	85	85	84	82	83
KODIAK, ALASKA, U. S. A.																			
0	7	-5	-1	-5	-3	10	20	-3	-5	34	40	40	34	32	24	9	9	9	-5
50	30	30	32	30	32	37	43	37	34	49	54	55	53	50	42	35	42	47	40
75	35	38	39	38	40	43	49	47	44	54	58	60	58	55	46	41	51	57	52
85	37	40	42	41	43	46	53	52	49	57	61	63	62	58	48	43	55	61	57
95	42	45	47	46	48	51	62	62	60	65	67	71	70	65	53	48	63	71	68
100	48	51	52	52	53	59	76	76	76	78	78	84	84	76	60	54	76	84	84
ADM***	34	34	36	35	37	41	47	41	38	54	58	60	57	54	46	39	46	52	45
KUALA LUMPUR, MALAYA																			
0	66	64	66	64	68	70	69	68	64	68	67	68	67	68	69	69	68	67	64
50	81	81	82	81	83	83	83	83	82	82	81	82	82	82	81	81	81	81	82
75	84	85	86	86	86	86	86	86	86	86	85	85	85	85	84	84	85	85	86
85	86	87	88	88	88	87	88	86	88	87	86	87	87	87	86	86	86	87	88
95	90	91	92	92	92	91	91	92	92	91	90	90	91	90	89	89	90	90	92
100	95	96	98	98	98	96	97	98	98	96	96	96	96	95	95	95	95	96	98
ADM***	89	90	92	90	92	91	91	91	91	91	90	90	90	90	89	89	89	90	90
KUWAIT, KUWAIT																			
0	56	35	56	55	40	54	60	40	55	72	75	68	68	67	57	43	43	43	33
50	59	55	58	57	66	76	86	76	66	90	95	95	93	91	82	70	81	87	77
75	65	61	64	64	72	82	92	84	76	96	99	101	100	97	88	77	90	97	88
85	67	64	66	67	75	85	95	89	81	99	102	104	103	100	91	80	95	101	93
95	72	71	71	73	81	92	101	97	92	106	108	109	109	107	97	88	106	109	104
100	79	82	78	82	90	103	109	109	109	119	118	115	119	117	105	100	117	119	119
ADM***	65	61	65	64	72	85	94	85	75	98	102	104	102	100	91	77	89	95	84
KWAJALEIN, MARSHALL IS.																			
0	72	72	72	72	73	73	73	73	72	73	72	71	71	73	73	73	73	71	71
50	72	81	81	78	82	82	83	82	80	83	83	83	83	85	83	83	85	83	81
75	73	83	83	80	84	84	85	84	82	85	85	85	85	85	85	85	85	86	84
85	75	84	85	81	85	85	86	85	83	86	86	87	87	86	87	86	87	87	86
95	80	86	87	85	87	87	89	88	86	88	89	90	90	89	90	88	90	90	89
100	90	90	91	91	91	91	90	91	91	90	93	94	94	95	95	92	95	95	95
ADM***	86	84	85	85	86	86	87	86	86	87	88	88	88	88	88	87	88	88	87
LAGOS, NIGERIA																			
0	66	65	66	65	60	69	69	60	60	69	69	67	67	64	69	70	68	67	60
50	82	81	83	82	84	83	82	83	82	80	79	78	79	79	80	82	80	79	81
75	86	85	87	87	87	87	86	88	88	82	82	81	82	82	83	85	83	83	86
85	89	87	89	89	91	89	89	91	91	84	83	83	84	83	85	87	86	85	89
95	92	91	92	93	95	93	94	96	96	87	87	88	88	87	89	91	91	90	95
100	99	95	96	99	99	99	104	104	104	93	93	96	96	94	96	99	99	99	104
ADM***	88	88	89	88	89	89	87	88	88	85	83	82	83	83	85	88	85	84	86
LAHORE, PAKISTAN																			
0	33	28	32	28	42	50	61	62	28	66	69	67	66	63	49	57	57	57	28
50	57	55	58	56	68	79	88	78	67	93	90	88	90	85	77	65	76	43	75
75	63	61	65	64	75	87	95	88	78	99	96	93	96	91	84	72	85	94	87
85	66	64	69	68	79	91	99	92	84	102	98	95	100	93	87	76	89	98	92
95	72	70	77	77	87	100	106	102	97	108	104	100	106	99	94	83	97	106	102
100	82	78	90	90	100	115	117	117	117	117	113	108	117	107	104	94	107	117	117
ADM***	73	69	72	71	83	95	104	94	83	106	100	97	101	97	95	83	92	96	89
LAJES, AZORES																			
0	59	58	59	58	42	41	47	41	58	52	57	61	52	55	51	48	48	48	38
50	60	58	58	59	58	60	62	60	59	67	71	73	70	71	67	63	67	68	64
75	65	63	62	63	62	64	66	64	64	71	74	76	75	75	70	66	71	74	70
85	66	64	64	65	63	66	67	66	66	73	76	78	77	77	72	68	74	76	73
95	69	67	67	68	66	69	71	70	71	76	80	82	81	81	76	72	79	81	79
100	71	70	70	71	70	73	76	76	76	82	87	88	88	86	82	77	86	88	88
ADM***	64	62	62	63	62	64	67	64	65	72	76	79	76	76	71	67	71	73	68
LA PAZ, BOLIVIA																			
0	55	55	56	55	56	50	50	50	50	27	26	27	26	30	30	30	30	26	26
50	54	55	55	55	55	55	49	52	52	48	48	49	48	51	55	55	53	50	51
75	59	58	58	59	58	58	54	57	58	55	55	55	54	57	59	61	59	57	58
85	61	61	60	61	60	61	57	60	61	56	56	57	57	60	62	63	62	61	62
95	67	67	66	67	66	67	65	66	67	62	62	63	63	68	67	69	69	68	69
100	76	77	76	77	76	75	72	76	77	70	71	72	72	80	76	77	80	80	80
ADM***	65	63	63	64	64	65	64	64	64	62	62	63	62	64	66	67	66	64	64
LAS PALMAS, CANARY IS.																			
0	47	46	47	46	47	50	54	47	46	58	60	62	58	59	56	52	52	52	46
50	66	64	65	65	65	66	68	66	65	70	72	75	72	74	73	70	72	72	69
75	71	69	69	70	70	71	72	72	71	74	76	79	77	78	78	75	78	78	75
85	73	71	71	72	72	74	74	74	74	76	78	81	80	81	80	77	81	81	79
95	78	77	76	78	78	80	79	81	80	81	84	88	87	87	86	81	87	88	87
100	85	86	84	86	86	91	88	91	91	89	95	99	99	96	95	88	96	99	99
ADM***	72	70	71	71	71	71	73	72	71	75	77	79	77	79	79	76	78	78	74

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
LENINGRAD U. S. S. R.																			
0	-56	-53	-50	-56	-25	-7	20	-25	-56	52	43	57	52	29	9	-8	-8	-8	-36
50	22	18	18	19	26	38	50	38	28	59	64	60	61	51	41	31	41	51	40
75	34	28	24	31	37	49	58	53	45	66	70	66	68	57	49	39	53	64	57
85	38	32	32	35	41	53	62	59	52	70	73	69	72	61	53	42	58	70	64
95	43	34	37	41	48	62	72	71	66	78	79	77	79	68	60	48	68	79	76
100	45	43	42	45	56	73	86	86	86	91	90	90	91	81	70	54	81	91	91
ADM***	26	23	24	24	33	45	58	45	35	66	71	66	68	57	45	34	45	56	46
LEOPOLDVILLE, BEL. CONGO																			
0	63	64	64	63	64	67	64	64	63	59	58	58	58	61	59	62	59	58	58
50	78	79	79	78	80	80	80	80	79	76	73	75	74	78	79	79	79	76	78
75	82	82	83	83	84	84	83	84	83	80	76	79	79	82	84	83	83	81	83
85	86	84	85	85	86	86	85	86	85	82	78	81	81	84	86	85	86	84	85
95	89	83	89	89	91	90	89	90	90	86	83	87	86	89	91	89	90	89	90
100	97	96	97	97	97	97	95	97	97	93	90	95	95	96	97	94	97	97	97
ADM***	86	87	88	87	89	89	88	89	88	84	81	84	83	87	88	87	87	85	86
LIBREVILLE, FR. AFRICA																			
0	66	63	63	63	63	64	64	63	63	63	62	63	62	66	67	67	66	62	62
50	80	80	80	80	81	81	80	81	80	78	76	77	77	76	79	79	78	77	79
75	83	84	84	84	85	85	84	85	85	81	79	80	81	81	82	82	82	82	83
85	86	86	86	86	87	87	87	87	87	83	81	82	83	83	83	84	84	84	86
95	88	89	89	86	91	90	91	92	92	88	85	86	87	86	87	88	88	88	91
100	92	94	94	94	96	95	99	99	99	95	92	92	95	92	92	95	95	95	99
ADM***	87	87	88	87	89	89	88	83	88	85	83	84	84	85	86	86	86	85	86
LIMA, PERU																			
0	56	59	59	56	61	56	52	52	52	49	49	50	49	51	53	51	51	46	49
50	70	74	75	73	75	72	67	71	72	63	62	61	62	63	65	67	65	63	68
75	74	78	79	78	78	76	71	76	77	67	66	65	66	66	68	71	69	68	73
85	76	80	81	80	80	78	73	79	80	69	68	67	68	68	66	73	71	70	76
95	80	83	86	85	84	84	77	84	85	74	73	72	73	72	73	78	76	76	82
100	87	88	92	92	91	93	84	93	93	81	81	81	81	78	79	85	85	85	93
ADM***	78	82	83	81	83	80	74	79	80	66	67	66	67	68	71	74	71	69	75
LISBON, PORTUGAL																			
0	31	30	29	29	34	40	42	34	29	49	52	55	49	51	43	34	34	34	29
50	52	51	53	52	55	54	63	56	55	68	71	72	70	69	63	57	63	67	61
75	57	56	58	58	61	64	69	56	65	73	77	77	77	75	66	63	71	75	70
85	59	58	61	60	66	67	72	70	67	77	80	80	80	78	72	65	75	80	75
95	62	61	66	65	71	74	80	79	77	85	89	88	89	86	74	70	84	89	86
100	66	66	73	73	83	87	94	86	96	96	103	100	103	99	89	77	99	103	103
ADM***	57	56	58	57	61	64	68	65	61	75	79	80	78	76	69	62	69	74	67
LIVINGSTONE, N. RHODESIA																			
0	50	61	56	50	47	44	37	37	37	27	52	36	27	40	52	49	40	27	27
50	72	74	76	74	75	73	67	71	73	61	61	66	63	75	81	79	78	70	71
75	74	79	81	81	81	80	74	79	81	69	68	73	72	83	86	86	87	81	82
85	81	81	83	86	86	83	77	83	85	73	71	77	76	86	91	89	90	85	86
95	89	86	88	91	89	89	84	89	92	80	77	85	84	93	97	96	97	94	95
100	101	93	96	101	96	97	94	97	101	86	85	97	97	103	105	104	105	105	105
ADM***	87	85	85	86	85	86	82	84	85	84	77	82	81	90	94	91	92	86	86
LONDON, ENGLAND																			
0	14	11	9	9	21	25	28	21	6	35	44	39	35	34	23	23	23	23	6
50	41	40	40	40	44	48	56	49	44	60	64	63	62	56	51	44	51	57	51
75	46	44	47	47	50	55	62	57	56	67	70	70	70	64	59	50	59	66	62
85	48	49	50	50	54	59	66	62	60	71	73	74	74	69	62	52	64	71	67
95	51	53	55	55	61	64	75	73	72	79	82	85	84	77	71	59	73	82	80
100	60	59	62	62	72	84	81	91	91	93	95	99	99	86	86	66	86	99	99
ADM***	45	44	45	45	51	56	63	57	51	69	73	72	71	67	58	49	58	65	58
LOS ANGELES, CALIF., U. S. A.																			
0	33	23	32	23	34	39	43	34	23	48	49	51	48	47	41	34	34	34	23
50	56	53	54	54	57	59	62	56	57	65	68	66	67	67	63	59	63	65	61
75	62	61	61	63	63	65	68	67	66	70	73	74	73	74	70	67	72	74	71
85	66	65	65	67	66	69	72	71	71	76	76	77	76	76	75	71	77	79	77
95	75	73	75	76	76	77	81	81	81	86	82	85	85	89	86	80	89	90	89
100	89	88	91	91	87	90	97	97	97	100	93	98	100	108	101	95	108	106	106
ADM***	66	63	63	64	65	67	69	67	66	72	74	75	74	75	72	70	72	73	69
LOURENCO MARQUES, MOZAMBIQUE																			
0	59	61	62	59	60	52	46	46	46	46	45	47	45	49	53	52	49	45	45
50	77	79	79	78	77	75	70	76	76	67	66	68	67	71	73	75	73	70	73
75	83	84	86	86	82	81	77	81	84	72	72	74	73	78	80	82	80	78	81
85	87	89	87	89	85	84	83	85	88	75	75	77	77	82	84	86	85	82	86
95	96	96	93	97	92	91	88	92	98	83	83	86	85	94	95	96	96	94	96
100	112	110	103	112	106	102	101	106	112	94	96	100	100	114	113	112	114	114	114
ADM***	85	85	87	86	85	93	80	85	84	77	76	78	77	80	82	83	82	79	82
LUANDA, ANGOLA																			
0	67	69	70	67	70	70	64	64	64	56	56	58	58	62	65	68	62	56	56
50	79	79	80	79	81	80	79	79	79	73	70	69	70	72	75	78	75	72	76
75	82	81	83	82	84	83	81	83	83	75	73	72	74	74	78	81	79	77	81
85	84	83	85	84	85	84	84	86	85	78	75	74	76	76	79	83	81	80	83
95	88	86	89	88	89	88	89	90	90	82	79	77	81	79	83	88	87	87	89
100	94	91	95	95	95	94	97	97	97	89	85	83	89	84	89	98	98	98	98
ADM***	83	83	85	86	86	85	82	84	84	77	74	74	75	76	79	82	79	77	80
LUSAKA, N. RHODESIA																			
0	53	51	51	51	51	50	45	45	45	59	42	40	59	49	54	54	49	59	59
50	71	71	71	71	72	71	69	70	71	66	67	69	67	73	74	71	73	70	70
75	75	76	76	76	77	76	75	76	77	72	73	76	74	78	79	76	78	77	78
85	77	79	79	78	79	78	77	79	79	75	75	79	77	81	81	79	81	80	81
95	82	84	84	83	83	82	82	84	84	81	81	84	83	85	86	85	87	87	87
100	90	91	91	91	90	88	89	90	91	89	89	91	91	92	93	95	95	95	95
ADM***	81	82	82	82	83	83	83	83	82	84	85	86	85	88	87	82	86	85	84

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
MADRAS, INDIA																			
0	57	57	59	57	62	68	70	62	57	69	71	69	69	69	62	59	59	59	57
50	77	76	78	77	82	87	92	87	82	91	88	87	88	86	83	79	82	85	83
75	81	81	83	82	87	92	97	93	89	96	92	91	93	90	88	83	88	92	90
85	83	82	85	85	89	94	100	96	92	98	94	93	96	92	90	85	90	95	94
95	87	86	90	90	94	100	105	103	100	103	99	97	101	96	95	89	95	101	101
100	91	91	98	98	102	109	113	113	113	110	106	104	110	102	102	94	102	110	113
ADM***	84	85	88	86	91	95	101	96	91	100	96	95	97	94	90	85	90	93	92
MADRID, SPAIN																			
0	16	14	19	14	25	29	32	25	14	40	47	49	40	39	30	25	25	25	14
50	42	40	43	42	49	54	61	54	48	69	75	74	72	67	58	47	57	65	56
75	48	47	49	49	55	61	68	62	57	76	81	81	80	74	65	53	66	75	67
85	51	49	53	52	58	64	72	67	62	79	85	84	84	77	68	56	70	79	73
95	56	55	59	59	66	72	79	76	73	87	91	91	91	85	75	62	80	89	84
100	64	64	70	70	78	85	91	91	91	98	101	102	102	96	86	72	96	102	102
ADM***	48	47	51	49	57	64	71	64	56	80	87	86	84	77	66	54	66	75	66
MAKASSAR, INDONESIA																			
0	67	70	70	69	70	69	63	63	63	63	63	62	62	58	65	66	58	58	58
50	79	79	80	79	80	80	81	80	80	79	78	78	78	79	80	80	79	79	79
75	82	81	82	82	82	83	84	84	83	83	82	82	82	83	83	83	84	84	84
85	83	82	83	83	83	84	86	85	85	84	83	84	84	86	85	85	86	86	86
95	85	85	85	85	85	87	88	88	88	87	87	88	88	90	88	87	90	90	90
100	89	88	89	89	89	91	91	91	91	91	92	94	94	95	92	91	95	95	95
ADM***	84	84	84	84	85	86	87	86	85	86	86	87	86	87	87	86	87	86	86
MALTA, MALTA																			
0	39	39	34	34	37	44	47	37	34	57	62	62	57	57	45	42	42	42	34
50	54	55	55	56	57	61	66	61	59	73	78	79	77	76	71	64	70	73	66
75	63	60	60	62	63	67	71	66	66	78	83	84	82	81	77	69	78	82	75
85	65	62	63	64	66	70	74	72	70	81	86	87	86	84	80	71	81	85	79
95	67	67	68	69	72	76	81	80	79	88	93	94	93	90	86	76	89	93	89
100	75	76	76	76	83	93	92	93	93	99	104	105	105	100	94	82	100	105	105
ADM***	62	59	59	60	62	66	71	66	63	79	84	85	83	81	75	68	75	79	71
MANAGUA, NICARAGUA																			
0	66	63	64	63	65	64	69	64	63	70	67	68	67	68	68	67	67	67	63
50	80	80	80	80	81	82	81	81	80	80	81	81	80	80	79	79	79	80	80
75	84	84	84	84	85	86	84	85	85	83	84	84	84	83	82	82	83	83	85
85	85	85	86	86	87	88	85	87	87	85	86	85	86	85	84	84	85	85	87
95	89	89	90	90	91	92	90	91	91	89	89	89	89	88	88	88	89	89	91
100	94	93	95	95	98	97	96	97	97	95	95	94	95	94	95	94	95	95	97
ADM***	87	88	89	88	90	90	87	89	89	85	87	87	87	86	85	85	85	86	87
MANAOS, BRAZIL																			
0	67	65	68	65	67	68	68	67	65	65	64	67	64	68	68	68	68	64	64
50	83	82	82	82	82	81	82	81	82	82	82	83	82	84	84	84	84	83	82
75	87	86	85	88	85	84	85	85	86	86	86	87	87	88	88	87	88	88	87
85	89	88	87	89	87	86	87	87	88	87	88	89	89	90	90	89	90	90	89
95	94	92	92	93	91	89	90	91	93	91	91	93	93	94	94	93	94	94	94
100	101	99	100	101	97	94	95	97	101	95	95	98	98	99	100	99	100	100	101
ADM***	90	88	88	89	88	87	88	88	88	88	89	91	89	92	92	91	92	90	89
MANGALORE, INDIA																			
0	63	62	62	62	65	71	66	65	62	68	69	69	68	70	68	65	65	65	62
50	80	80	81	80	83	85	85	84	82	80	79	79	79	79	81	81	80	80	81
75	84	84	85	85	87	88	89	89	87	83	82	82	83	81	84	85	84	84	86
85	86	86	88	87	89	89	91	91	89	85	83	81	84	83	85	87	85	85	85
95	90	90	93	92	93	92	94	94	94	88	85	86	88	85	89	90	90	89	93
100	95	95	100	100	98	96	98	98	100	96	89	90	94	89	94	95	95	95	100
ADM***	89	89	88	89	90	91	91	91	90	85	84	84	84	84	86	88	86	85	87
MANILLA, PHILLIPINES																			
0	60	58	60	58	61	63	64	61	58	71	69	69	69	69	67	62	62	62	58
50	78	78	79	78	81	83	84	83	80	83	82	81	82	82	81	80	81	81	81
75	82	82	83	83	86	88	88	88	86	86	85	85	86	85	85	84	85	86	86
85	84	84	85	85	88	90	90	90	88	88	87	86	86	86	86	85	87	88	89
95	88	89	90	90	92	94	95	95	94	93	91	89	92	90	90	89	90	93	94
100	96	95	96	96	98	100	101	101	101	100	97	95	100	95	95	93	95	100	101
ADM***	86	86	88	87	91	94	91	92	89	91	88	87	89	88	88	87	88	88	89
MARACAIBO, VENEZUELA																			
0	69	66	68	66	67	68	68	67	68	69	70	69	69	68	68	70	68	68	66
50	83	82	82	82	83	84	85	84	83	85	85	86	85	86	86	84	86	85	84
75	87	86	85	86	86	88	89	88	87	89	89	90	89	90	88	87	89	89	88
85	88	88	87	88	88	90	91	90	90	91	91	92	91	92	90	89	91	91	91
95	92	92	91	92	92	95	94	95	94	95	95	96	96	96	94	92	95	96	95
100	96	98	97	98	98	102	100	102	102	100	101	102	102	102	99	98	102	102	102
ADM***	91	90	90	90	91	92	92	92	91	93	94	94	94	94	92	91	92	93	92
MARSEILLES, FRANCE																			
0	11	14	7	9	20	28	32	20	9	41	47	47	41	34	27	21	21	21	9
50	51	46	45	47	47	50	56	51	49	62	68	72	67	72	67	59	66	66	58
75	60	53	53	56	54	57	63	59	60	69	74	79	75	80	75	67	76	77	70
85	62	56	58	59	58	60	67	64	65	73	78	82	79	83	78	69	79	82	75
95	67	62	63	65	66	69	77	75	76	82	86	90	87	87	82	73	85	90	86
100	70	69	71	71	79	83	93	93	93	99	100	101	101	92	86	76	92	101	101
ADM***	59	53	52	55	55	59	65	60	57	72	78	83	78	82	76	67	75	76	67
MAURITIUS, INDIAN OCEAN																			
0	62	63	64	62	63	58	55	55	55	51	51	50	50	51	55	57	51	50	50
50	78	80	79	79	78	76	73	76	77	70	69	69	69	70	72	75	72	71	74
75	82	84	83	83	82	80	77	80	83	74	73	73	73	74	76	79	78	76	80
85	84	86	86	85	83	82	78	82	85	76	74	74	75	76	78	81	80	78	82
95	87	89	87	89	86	85	81	86	89	79	77	77	79	79	82	85	85	83	88
100	95	95	91	95	90	88	85	90	95	83	80	80	83	83	88	91	91	91	95
ADM***	85	86	85	85	84	82	79	82	83	76	75	75	75	77	80	83	80	78	81

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
MAZATLAN, MEXICO																			
0	54	53	52	52	55	57	59	55	52	70	69	68	68	68	69	62	62	62	52
50	70	66	67	68	68	71	75	71	69	80	82	82	81	81	81	76	79	80	75
75	74	69	70	71	71	74	79	75	74	85	84	85	84	84	83	79	83	84	80
85	75	71	72	73	73	76	80	77	76	86	86	86	86	85	84	80	84	86	82
95	78	73	75	77	77	80	83	81	80	87	88	89	89	87	86	83	87	89	87
100	82	77	79	82	82	87	87	87	87	91	91	93	93	89	89	87	89	93	93
ADM***	75	71	71	72	73	76	80	76	74	84	86	86	85	85	85	80	83	84	79
MEDAN, INDONESIA																			
0	65	65	65	65	65	67	65	65	65	63	64	65	63	66	64	60	60	60	60
50	79	78	79	79	80	81	81	81	80	81	81	81	81	80	79	79	79	80	80
75	82	82	83	82	84	85	85	85	83	85	85	84	85	84	83	83	84	85	85
85	84	83	84	84	86	86	87	87	85	87	87	88	87	86	84	85	86	87	87
95	88	87	88	88	89	90	91	90	90	90	90	90	91	90	88	87	90	91	91
100	96	93	96	96	95	95	96	96	96	95	96	95	96	96	91	93	96	96	96
ADM***	85	85	87	86	88	87	89	89	87	89	89	89	89	88	86	86	87	88	87
MELBOURNE, AUSTRALIA																			
0	40	42	40	40	37	35	39	30	30	29	27	29	27	31	32	37	31	27	27
50	65	64	64	67	65	60	55	60	63	51	49	51	50	55	54	61	58	54	58
75	73	76	76	75	73	67	61	69	73	56	55	57	56	61	65	69	66	65	69
85	78	81	80	80	78	71	65	74	79	59	57	60	60	65	70	74	72	68	75
95	90	93	92	93	89	80	72	86	92	64	62	67	66	74	80	86	86	82	89
100	111	114	110	114	107	95	84	107	114	72	69	77	77	99	94	106	106	106	114
ADM***	75	74	78	77	75	68	62	68	73	57	56	59	57	63	67	71	67	62	67
MENADO, INDONESIA																			
0	70	64	69	68	68	65	69	65	65	69	67	65	65	66	65	66	65	65	65
50	80	79	79	79	79	80	81	80	80	81	80	82	81	81	81	80	81	81	80
75	81	82	82	82	82	84	83	83	83	84	83	84	85	85	85	83	85	85	84
85	84	83	83	84	83	85	85	85	85	85	85	88	87	87	87	85	87	87	86
95	87	86	87	87	89	89	88	89	88	88	88	91	90	90	90	88	90	91	90
100	91	91	92	92	91	92	92	92	92	93	93	95	95	96	94	92	96	96	96
ADM***	86	85	85	85	85	87	87	86	86	87	87	89	88	89	89	87	88	88	87
MENDOZA, ARGENTINA																			
0	36	41	41	36	22	30	25	23	21	15	16	21	15	25	32	36	25	15	15
50	71	75	73	74	69	60	55	61	67	44	47	51	48	57	63	66	63	55	61
75	82	86	81	83	76	68	61	70	76	50	55	59	56	65	71	77	73	67	73
85	87	88	85	87	82	71	65	75	81	61	60	65	65	69	75	82	78	75	79
95	95	96	93	96	89	79	73	85	94	71	69	74	76	79	86	91	89	85	91
100	104	109	105	109	98	91	88	99	109	86	83	92	92	93	97	106	106	106	109
ADM***	88	90	87	88	82	71	65	73	81	59	59	63	60	69	76	83	76	68	74
MERIDA, MEXICO																			
0	55	51	51	51	52	58	63	52	51	69	66	67	66	66	63	56	56	56	51
50	71	73	76	73	76	81	83	80	77	83	81	82	82	82	79	76	79	81	79
75	78	78	80	78	86	87	88	87	84	87	87	86	87	85	83	81	84	87	86
85	80	80	82	81	90	90	91	91	87	89	89	88	90	87	85	83	86	87	88
95	85	85	88	87	91	96	96	97	95	96	92	93	95	90	89	85	86	89	89
100	92	92	95	95	98	106	106	106	106	105	97	100	105	96	94	91	96	105	106
ADM***	82	83	85	83	89	92	94	92	87	92	92	91	92	90	87	85	87	89	88
MEXICO CITY, MEXICO																			
0	12	27	29	27	36	33	43	33	27	48	47	49	47	36	35	30	36	36	27
50	55	56	56	55	61	66	66	66	59	66	65	66	66	66	60	57	60	62	61
75	60	60	61	62	66	72	72	71	67	70	67	67	69	70	66	62	66	69	69
85	62	61	66	65	70	75	75	76	71	73	70	69	71	72	66	65	66	72	75
95	67	68	72	72	76	81	80	81	79	79	75	76	77	75	71	70	73	76	80
100	73	76	81	81	90	90	89	90	90	87	85	81	87	78	79	77	78	81	80
ADM***	66	66	69	67	75	77	78	77	72	76	75	75	76	76	70	64	71	72	72
MIAMI, FLA., U. S. A.																			
0	30	31	27	27	36	44	50	36	27	65	65	66	65	67	52	36	36	36	27
50	70	69	69	69	71	76	77	76	71	80	82	82	81	81	76	72	77	79	75
75	78	76	77	78	79	81	85	85	81	84	86	86	85	84	85	80	86	88	85
85	80	79	80	80	81	85	85	85	84	86	87	87	87	86	85	82	84	91	84
95	84	82	81	84	85	87	89	89	89	89	91	90	90	89	90	86	91	90	93
100	85	85	85	85	88	91	92	92	92	96	95	95	95	91	91	89	93	95	95
ADM***	75	76	75	75	77	80	82	79	77	85	87	87	86	86	83	78	82	84	81
MIDWAY, PACIFIC OCEAN																			
0	51	45	49	46	50	50	53	50	46	54	56	64	56	59	56	53	55	55	46
50	67	66	65	66	67	69	71	66	67	76	76	79	77	78	75	71	75	76	71
75	70	71	69	70	71	72	75	73	72	80	81	82	82	82	79	75	80	81	78
85	72	72	71	72	72	76	77	75	75	82	82	84	84	84	81	77	82	83	80
95	75	75	75	76	76	77	81	80	80	85	85	87	87	87	86	80	85	87	85
100	80	77	90	80	81	82	87	87	87	89	90	91	91	90	88	86	90	91	91
ADM***	72	72	71	72	72	76	74	75	73	82	84	85	86	85	81	77	81	82	78
MILAN, ITALY																			
0	4	5	5	5	19	32	40	19	5	62	51	49	42	42	31	23	23	23	5
50	34	35	40	37	47	56	63	55	46	71	76	73	72	67	57	45	56	64	55
75	45	42	49	49	56	61	69	64	57	77	80	79	80	73	63	51	65	74	67
85	47	46	52	49	58	66	72	69	62	80	82	81	83	76	66	54	68	78	73
95	53	53	59	57	65	76	77	77	73	84	88	87	88	81	72	60	76	86	83
100	60	64	69	69	76	86	87	89	89	94	96	96	96	88	80	69	88	96	96
ADM***	42	40	47	45	56	66	72	65	54	80	84	82	82	76	64	51	64	73	63
MINNEAPOLIS, MINN., U. S. A.																			
0	-22	-31	-26	-31	-27	9	25	-27	-31	34	44	40	34	26	18	-9	-9	-9	-31
50	19	15	18	17	31	46	57	45	31	68	74	72	71	62	50	35	49	60	46
75	30	26	29	30	45	56	67	62	47	77	81	80	80	71	59	44	63	76	64
85	35	31	34	35	51	62	71	68	55	81	85	85	85	76	64	49	69	82	71
95	46	42	45	47	62	73	81	80	71	89	92	91	93	85	74	59	81	92	86
100	55	54	56	65	74	92	95	95	95	100	104	102	104	98	89	75	98	104	104
ADM***	27	25	27	26	39	56	69	55	40	79	85	82	82	73	60	41	58	70	55

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
MONROVIA, LIBERIA																			
0	57	55	68	55	67	60	60	60	55	65	61	65	61	65	66	61	61	61	55
50	80	80	79	79	81	80	79	80	80	77	76	77	77	77	78	79	78	77	78
75	84	85	82	85	84	84	83	84	85	80	79	79	80	79	80	83	82	81	84
85	86	86	83	86	85	86	85	86	87	81	81	80	81	80	81	84	83	82	86
95	88	89	86	89	87	89	89	89	90	84	83	83	84	82	83	87	86	85	89
100	89	90	91	91	90	91	91	93	93	87	85	86	87	85	86	89	89	89	93
ADM***	86	86	85	86	87	87	86	87	86	81	80	80	80	81	83	85	83	82	84
MONTEGO BAY, JAMAICA																			
0	57	57	59	57	58	63	66	58	57	68	66	68	66	68	65	62	62	62	57
50	78	77	77	77	77	79	80	78	78	82	82	82	82	81	81	79	80	81	79
75	81	81	81	82	82	82	83	83	83	85	85	85	85	85	84	83	85	85	85
85	85	83	83	84	84	84	85	85	85	87	87	87	87	86	86	85	87	87	87
95	90	87	87	89	88	88	88	89	90	90	91	91	91	90	90	90	91	91	91
100	96	91	92	96	91	91	94	94	96	95	96	97	97	96	96	96	96	97	97
ADM***	87	86	86	86	86	87	87	87	86	89	90	90	90	89	88	87	88	89	86
MONTERREY, MEXICO																			
0	30	25	26	25	30	42	51	10	25	55	60	60	55	51	45	30	30	30	25
50	58	58	62	59	67	71	78	72	66	81	81	82	81	78	72	63	71	76	71
75	65	67	71	68	76	81	85	83	76	88	86	88	88	85	79	71	81	87	82
85	69	71	76	71	80	85	88	87	81	90	88	90	91	87	81	75	85	90	86
95	79	80	85	81	88	93	96	95	92	96	94	95	97	93	87	83	92	97	95
100	94	94	99	99	100	105	107	107	107	105	102	102	105	101	95	94	101	105	107
ADM***	65	68	72	68	76	84	87	82	75	91	90	92	91	86	80	77	79	85	80
MONTEVIDEO, URUGUAY																			
0	41	46	46	41	40	36	29	29	29	25	26	25	25	29	29	38	29	25	25
50	69	73	72	71	69	62	56	62	67	51	51	51	51	55	59	64	59	55	61
75	77	80	79	79	76	69	63	71	77	58	57	58	58	62	67	71	67	64	71
85	80	84	83	84	80	74	67	76	82	61	61	61	62	65	71	75	72	68	76
95	89	94	91	91	86	83	75	86	92	69	69	68	70	73	80	84	82	80	89
100	102	109	105	109	101	94	87	101	109	81	81	79	81	86	94	98	98	98	109
ADM***	79	81	62	81	78	71	64	71	76	59	58	57	59	61	68	74	68	65	70
MONTREAL, QUEBEC, CANADA																			
0	-29	-27	-28	-29	-20	2	23	-20	-29	18	46	43	16	32	20	-18	-18	-18	-29
50	20	14	16	16	26	42	56	41	29	66	70	67	67	59	47	33	46	57	43
75	31	26	26	28	38	52	64	56	44	73	76	74	75	66	54	45	61	73	60
85	36	29	30	33	43	57	69	63	52	76	79	77	78	70	58	50	67	79	67
95	46	39	39	41	53	67	79	76	68	81	86	84	86	78	67	59	77	88	80
100	59	54	51	59	68	81	94	94	94	94	97	96	97	90	80	70	90	97	97
ADM***	26	21	23	21	33	50	64	49	36	74	78	75	76	67	54	39	53	64	50
MOSCOW, U. S. S. R.																			
0	-27	-27	-17	-27	-20	8	23	-20	-27	31	43	36	11	26	17	-5	-5	-5	-27
50	18	15	17	17	25	39	55	39	28	62	66	62	63	52	40	27	40	51	40
75	28	24	26	26	35	46	62	54	42	70	72	69	72	59	47	34	51	65	56
85	31	28	27	30	38	52	66	59	49	74	75	73	75	61	51	37	57	71	61
95	37	31	33	36	45	63	76	71	64	82	83	82	84	72	59	42	64	82	77
100	42	39	40	42	53	80	86	86	86	94	95	96	96	86	76	47	86	96	96
ADM***	23	21	21	22	32	47	65	48	35	71	76	72	74	61	46	31	46	60	47
MUKDEN, MANCHURIA																			
0	-20	-24	-27	-27	-4	18	33	-4	-27	46	58	49	46	12	18	-15	-15	-15	-27
50	15	11	17	14	12	47	62	44	11	73	78	76	76	64	50	32	48	62	46
75	24	19	28	24	41	57	69	60	46	80	85	82	81	71	58	43	63	79	64
85	29	23	32	29	45	62	73	66	53	81	86	85	86	75	61	49	69	85	71
95	38	32	40	39	54	71	80	76	68	91	92	90	91	92	69	61	80	94	85
100	52	45	51	57	66	86	91	91	91	103	102	96	101	91	80	78	93	103	103
ADM***	25	22	24	25	43	61	74	59	42	84	87	65	65	75	61	41	50	72	57
MUNICH, W. GERMANY																			
0	-5	-14	-7	-14	-2	14	29	-2	-14	15	40	37	35	30	16	5	5	5	-14
50	31	29	31	30	38	46	54	46	38	60	61	67	61	56	47	37	46	55	46
75	39	38	40	41	48	54	61	58	51	67	69	74	71	61	54	45	57	67	61
85	43	41	45	45	52	57	65	63	57	70	71	77	74	66	58	49	61	71	67
95	49	48	51	54	60	65	71	72	69	77	83	84	81	71	66	57	70	80	78
100	57	55	65	65	70	77	86	86	86	87	91	92	92	81	77	69	83	92	92
ADM***	16	31	37	35	45	54	63	54	45	69	72	71	71	64	53	42	53	62	51
NAGOYA, JAPAN																			
0	24	19	20	19	21	27	18	23	19	48	59	57	48	51	17	28	28	28	19
50	45	40	41	42	46	56	64	55	48	72	80	82	78	75	64	53	64	71	60
75	51	45	47	48	52	61	71	64	57	78	85	88	85	81	70	60	73	81	70
85	54	48	50	52	55	67	73	67	61	81	87	90	84	83	74	63	77	85	75
95	62	55	59	61	63	74	79	76	71	88	92	95	94	88	81	70	84	92	85
100	75	66	73	75	75	94	88	88	88	94	96	101	101	95	91	90	95	101	101
ADM***	52	47	44	49	54	65	71	64	57	80	87	90	86	83	72	62	72	79	68
NAGPUR, INDIA																			
0	42	41	44	41	47	61	67	47	41	70	70	69	69	66	57	39	19	39	19
50	68	70	75	71	81	91	96	90	80	89	82	81	84	82	79	73	78	81	80
75	74	77	62	78	92	98	102	100	90	94	85	85	89	86	85	80	86	91	91
85	77	80	85	82	96	101	105	101	95	97	88	87	92	88	87	83	90	95	95
95	83	86	92	90	103	107	111	110	104	105	94	92	101	93	91	89	96	104	105
100	92	95	102	102	111	115	114	118	118	117	105	100	117	102	101	96	102	117	118
ADM***	81	83	89	84	94	105	109	104	94	98	88	87	91	89	90	85	88	90	92
NAIROBI, KENYA																			
0	47	47	48	47	49	52	48	48	47	45	43	44	43	41	45	43	41	41	41
50	65	66	67	66	67	67	64	66	66	62	60	61	61	64	66	65	65	63	64
75	69	70	72	71	72	70	68	71	71	66	65	66	66	69	71	70	71	68	70
85	71	72	74	71	74	72	70	73	73	68	67	68	68	71	73	72	73	71	73
95	75	77	79	79	79	76	75	78	79	73	72	75	73	76	78	77	78	77	79
100	82	84	87	87	86	82	82	86	87	80	79	80	80	82	86	82	86	86	87
ADM***	74	77	79	77	77	75	72	75	76	70	69	70	70	75	76	74	75	72	74

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
NANDI, FIJI ISLANDS																			
0	62	67	67	62	66	61	61	61	61	58	55	57	55	57	57	55	55	55	55
50	79	80	80	80	80	79	77	78	79	75	74	74	74	75	76	77	76	75	77
75	85	84	84	84	84	85	81	85	84	79	78	78	78	79	80	82	81	80	82
85	86	85	86	86	86	85	85	85	86	81	80	80	80	81	82	84	85	82	85
95	90	89	90	91	91	89	87	90	91	84	84	84	84	85	87	88	87	86	90
100	97	95	97	97	98	94	95	98	98	90	90	90	90	90	95	95	95	95	96
ADM***	85	86	86	86	86	84	82	84	85	80	79	79	79	80	81	85	81	80	85
NANKING, CHINA																			
0	9	8	17	8	25	31	44	25	8	52	62	62	52	47	31	21	21	21	8
50	40	36	39	38	48	58	64	58	48	76	82	81	80	75	65	51	62	71	60
75	48	45	46	47	55	66	75	67	59	82	87	86	86	79	71	59	72	82	72
85	55	47	50	51	60	69	78	72	65	85	89	88	89	82	76	62	77	87	78
95	62	56	60	62	70	78	86	82	77	91	95	95	95	88	80	70	85	95	89
100	77	65	78	78	88	92	97	97	97	99	104	101	104	96	89	82	96	104	104
ADM***	48	45	46	46	55	56	74	66	56	85	88	88	86	80	71	52	70	78	67
NAPLES, ITALY																			
0	24	26	28	26	28	40	45	28	26	51	55	55	51	55	41	36	36	36	26
50	51	48	49	49	55	59	65	59	56	72	77	77	75	72	66	56	66	69	62
75	57	56	56	55	57	64	70	67	62	77	85	82	81	78	70	62	72	78	72
85	59	56	57	58	62	66	75	71	67	80	86	85	86	81	72	66	76	82	76
95	65	61	61	65	68	72	80	79	76	88	92	91	91	88	78	69	86	90	86
100	69	67	69	69	77	82	91	91	91	95	101	97	101	100	86	77	100	101	101
ADM***	57	56	55	55	60	67	75	67	61	81	88	86	86	81	72	65	72	78	70
NASSAU, BAHAMAS																			
0	65	61	65	61	66	55	55	66	61	62	67	67	62	65	54	49	49	49	61
50	75	75	71	72	75	75	78	75	76	71	82	85	78	82	79	76	79	78	76
75	77	80	77	77	78	80	85	82	81	76	85	86	82	85	84	81	85	85	84
85	81	82	79	81	81	82	85	84	85	76	87	88	84	87	86	85	87	87	86
95	84	84	82	84	84	86	88	88	88	85	90	90	88	89	89	86	90	91	90
100	86	85	86	86	88	91	92	92	92	94	94	94	94	92	92	89	92	94	94
ADM***	79	77	77	78	79	81	84	81	79	87	88	89	88	88	85	81	85	86	85
NATAL, BRAZIL																			
0	68	68	68	68	66	61	65	61	61	64	65	65	65	64	64	65	64	65	61
50	82	82	81	81	81	80	79	80	80	77	76	76	76	74	80	81	80	78	79
75	84	88	84	84	84	84	82	84	85	80	79	79	79	81	83	84	83	81	83
85	85	86	85	86	85	85	84	85	86	82	80	80	81	83	84	86	84	83	85
95	87	87	87	88	87	87	87	88	89	85	85	85	84	85	86	87	87	84	88
100	88	89	90	90	90	89	91	91	91	89	87	87	89	89	89	89	89	89	91
ADM***	86	87	86	86	86	86	85	84	86	85	82	82	82	84	85	86	85	84	85
NEW DELHI, INDIA																			
0	34	31	32	31	45	55	65	45	31	66	71	72	66	64	51	41	41	41	31
50	60	57	62	60	75	85	92	82	71	95	89	85	89	84	79	64	77	85	77
75	66	64	69	67	80	90	99	92	82	99	94	90	95	89	86	75	84	95	88
85	69	67	75	73	85	94	101	96	87	102	96	92	98	92	89	78	89	97	95
95	75	76	80	78	91	102	107	104	98	107	105	97	105	97	95	84	96	105	102
100	85	84	89	89	105	114	115	115	115	115	115	104	115	105	105	95	105	115	115
ADM***	75	70	75	75	87	97	105	96	84	102	94	95	97	95	95	84	90	84	89
NEW ORLEANS, LA., U. S. A.																			
0	17	15	7	7	24	38	55	28	7	54	66	65	58	54	40	26	29	29	7
50	57	56	59	57	65	70	76	70	65	87	85	85	85	80	75	65	72	77	70
75	66	65	70	68	71	77	82	79	76	88	88	88	89	86	80	71	82	88	84
85	69	69	76	72	75	80	85	85	81	90	90	90	91	89	85	76	85	91	89
95	76	75	80	79	81	85	90	89	87	95	95	95	96	95	88	80	92	97	94
100	84	85	85	85	90	91	97	97	97	102	102	100	102	99	94	89	99	102	102
ADM***	65	66	67	65	71	78	84	78	71	89	90	91	90	87	80	70	79	85	78
NEW YORK, N. Y., U. S. A.																			
0	-2	0	-7	-7	7	25	37	7	-7	45	50	55	45	42	32	17	17	17	-7
50	36	35	35	34	41	50	61	51	42	71	78	76	76	64	54	47	58	66	58
75	45	42	45	44	50	58	68	62	55	78	81	80	81	76	65	55	68	77	69
85	49	46	48	49	55	62	72	67	62	81	84	84	85	80	69	59	76	82	75
95	58	56	58	59	67	72	81	79	75	89	90	91	92	88	74	68	85	91	87
100	70	72	76	76	86	89	96	96	96	101	100	103	103	102	95	85	102	103	103
ADM***	42	39	37	40	48	58	70	59	49	80	84	82	82	76	65	55	65	75	65
NICOSIA, CYPRUS																			
0	29	25	23	23	27	32	40	27	23	49	52	57	49	49	40	26	26	26	23
50	54	50	51	51	55	62	72	65	57	78	85	85	81	78	70	62	70	75	66
75	60	56	57	58	62	70	80	73	67	85	91	90	90	85	76	70	80	88	78
85	62	57	61	61	66	76	86	78	75	89	95	95	94	89	82	75	85	95	84
95	68	65	67	67	76	82	94	90	86	95	105	99	105	96	91	85	94	105	96
100	76	70	76	76	88	94	109	109	109	105	116	108	116	106	105	95	106	116	116
ADM***	62	58	57	60	65	74	85	74	87	91	97	97	95	91	81	72	81	88	77
NOME, ALASKA, U. S. A.																			
0	-42	-47	-42	-47	-38	-30	-11	-38	-47	20	28	24	20	16	-4	-39	-39	-39	-47
50	8	4	6	6	9	20	34	21	15	49	50	49	48	42	30	16	29	39	26
75	17	16	18	18	20	32	44	35	28	55	56	56	56	48	34	28	44	56	45
85	25	22	23	26	26	37	48	40	35	57	60	59	60	51	41	35	49	62	51
95	31	32	33	34	33	47	56	52	48	66	69	67	69	57	48	41	57	75	65
100	40	46	47	47	44	60	66	66	66	80	84	80	84	65	54	50	65	84	84
ADM***	16	11	16	15	17	28	40	28	21	55	55	55	54	48	35	22	35	65	33
NOUMEA, N. CALEDONIA																			
0	65	64	64	65	65	61	56	56	56	55	52	54	52	55	56	60	55	52	52
50	78	79	79	79	79	77	75	76	77	71	69	69	69	71	75	76	75	71	74
75	82	85	85	85	85	81	77	81	85	75	75	72	74	75	77	80	78	76	80
85	85	85	86	85	85	85	79	85	85	77	76	74	78	77	79	82	80	79	85
95	90	90	91	91	89	88	84	88	91	82	80	79	81	82	85	87	86	85	89
100	98	97	99	99	95	96	91	96	99	89	87	85	89	90	95	94	94	94	99
ADM***	85	86	85	86	85	85	77	82	84	77	76	76	76	78	80	85	80	78	81

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
OKINAWA, RYUKYU IS.																			
0	55	57	52	52	55	46	50	55	52	60	67	66	60	56	51	54	54	54	52
50	63	60	59	61	64	70	76	70	65	81	84	85	85	81	74	69	74	78	72
75	70	66	66	66	71	76	82	78	74	86	88	87	88	86	80	76	83	88	81
85	73	69	70	71	74	79	85	82	78	88	90	89	90	88	82	80	86	91	85
95	77	76	77	78	81	86	91	87	86	93	95	94	95	92	88	85	92	97	92
100	88	86	88	89	91	95	98	98	98	99	101	100	101	97	95	92	97	101	101
ADM***	69	66	65	67	70	77	83	77	72	89	92	91	91	88	81	75	81	86	79
OSAKA, JAPAN																			
0	24	19	20	19	23	27	38	23	19	48	59	57	48	51	37	28	28	28	19
50	45	40	41	42	46	54	64	55	48	72	80	82	78	75	64	53	64	71	60
75	51	45	47	48	52	63	71	64	57	78	85	88	85	81	70	60	73	81	70
85	54	48	50	52	55	67	73	67	61	81	87	90	88	83	74	63	77	85	75
95	62	55	59	61	63	74	79	76	71	86	92	95	94	88	81	70	84	92	85
100	75	66	73	75	75	84	88	88	88	94	98	101	101	95	91	80	95	101	101
ADM***	52	47	44	49	54	65	73	64	57	80	87	90	86	83	72	62	72	79	68
OSLO, NORWAY																			
0	-10	-21	-18	-21	-10	5	24	-10	-21	33	42	37	33	26	17	2	2	2	-21
50	24	25	26	26	33	42	53	42	34	60	65	61	62	53	43	33	43	52	43
75	34	35	36	37	42	51	60	55	48	67	71	67	69	57	51	40	53	65	59
85	40	39	40	41	44	55	63	60	54	71	74	71	73	62	54	43	57	70	65
95	44	46	48	48	54	63	71	70	66	80	80	77	81	68	61	49	65	80	77
100	53	53	57	57	63	75	83	83	83	93	91	84	93	77	70	57	77	93	93
ADM***	31	30	32	31	40	50	62	51	41	69	73	69	70	60	49	37	49	59	50
OTTAWA, ONTARIO, CANADA																			
0	-34	-37	-35	-35	-34	-2	21	-34	-35	33	34	33	33	24	14	-10	-10	-10	-35
50	17	12	13	14	25	41	55	40	27	65	70	66	67	58	44	33	45	54	41
75	29	23	26	26	39	52	64	54	43	73	74	74	70	68	54	43	60	71	60
85	33	24	29	31	44	58	69	65	51	77	81	76	80	73	59	48	64	77	68
95	43	39	40	41	59	69	79	74	64	85	89	87	84	84	70	57	81	89	82
100	55	54	54	55	74	84	94	94	94	97	101	100	101	102	87	71	102	102	102
ADM***	26	21	22	22	33	51	44	50	36	74	81	77	78	64	54	38	54	64	51
PADANG, INDONESIA																			
0	70	70	69	69	70	71	71	70	69	68	70	68	68	70	70	70	70	68	68
50	80	81	81	80	81	81	82	81	81	81	81	81	81	80	80	80	80	80	80
75	83	83	84	83	83	84	84	84	84	86	83	83	86	83	83	83	83	83	84
85	84	85	85	85	85	85	86	85	85	85	85	85	85	86	86	86	86	85	85
95	87	88	89	89	88	88	89	88	89	88	84	88	88	87	87	87	87	88	89
100	91	93	94	94	93	92	93	93	94	95	82	82	93	91	92	91	92	93	94
ADM***	84	87	87	87	87	87	88	87	87	87	87	87	87	88	84	86	86	87	87
PANAMA CITY, PANAMA																			
0	66	63	66	63	65	64	69	66	63	70	67	66	67	66	66	67	67	67	63
50	80	80	80	80	81	82	81	81	80	80	81	81	80	80	78	78	78	80	80
75	84	84	84	84	85	86	86	85	85	83	84	84	84	83	82	82	83	83	85
85	85	85	86	86	87	88	88	87	87	85	86	85	86	85	86	86	85	85	87
95	89	86	90	90	91	92	90	91	91	88	89	88	89	88	86	86	89	89	91
100	94	93	95	95	98	97	96	97	97	95	95	94	95	96	95	96	95	95	97
ADM***	87	88	86	88	90	90	87	88	89	86	87	87	87	86	85	85	85	86	87
PARIS, FRANCE																			
0	4	7	4	4	20	24	13	20	4	60	63	63	60	55	25	15	15	15	4
50	34	37	39	38	44	51	57	51	44	63	68	65	66	60	52	44	52	58	51
75	45	44	47	44	51	57	64	54	55	69	73	71	72	67	59	51	61	68	66
85	48	47	50	49	54	62	68	64	61	73	77	75	76	70	62	56	66	75	73
95	56	57	56	56	67	71	77	75	73	82	87	83	87	79	70	60	77	88	83
100	67	54	66	66	75	88	92	92	92	98	104	97	104	96	83	69	96	104	104
ADM***	43	42	45	43	52	60	67	60	51	73	76	75	75	69	59	48	59	67	59
PEIPING, CHINA																			
0	-2	-3	-1	-3	13	27	34	13	-3	60	62	57	60	40	31	10	10	10	-3
50	29	25	30	29	47	57	68	55	41	78	82	80	80	71	54	41	57	68	55
75	34	32	34	36	49	65	76	67	55	85	87	85	87	76	65	49	68	82	69
85	39	35	42	40	53	69	81	73	62	88	90	88	91	80	69	54	72	87	76
95	46	43	51	49	63	80	91	88	79	96	97	96	94	86	76	63	81	97	89
100	56	56	66	66	77	96	107	107	107	107	108	103	108	92	89	74	92	109	109
ADM***	36	33	36	35	57	64	80	67	51	89	90	87	89	79	64	49	65	77	66
PERTH, AUSTRALIA																			
0	44	49	44	44	46	39	34	34	34	35	36	35	36	39	40	42	39	36	34
50	71	76	76	73	71	87	61	66	70	57	56	56	56	59	62	67	62	59	64
75	78	81	82	81	76	76	64	75	79	63	61	62	62	65	64	76	70	67	76
85	82	85	86	85	82	78	72	80	86	66	61	65	65	66	72	78	76	72	79
95	92	95	94	95	91	86	79	80	95	77	69	71	72	77	80	88	86	84	91
100	104	110	112	112	106	100	90	106	112	82	76	82	82	91	95	105	105	105	112
ADM***	81	85	85	86	81	76	69	75	79	66	63	66	66	67	70	76	71	67	73
PESHAWAR, PAKISTAN																			
0	24	26	31	26	36	41	52	36	26	65	69	68	65	58	43	33	33	33	26
50	53	52	55	53	64	73	86	73	63	92	91	89	90	86	73	62	73	81	72
75	60	54	61	60	71	81	92	86	76	96	87	94	97	90	81	69	83	93	85
85	63	61	65	66	76	85	96	89	80	102	101	98	101	93	86	72	87	98	90
95	71	67	73	73	82	94	105	100	94	109	109	105	109	100	91	80	97	108	103
100	83	76	86	86	93	108	118	118	118	120	122	118	122	110	101	91	110	122	122
ADM***	67	63	66	65	75	85	94	86	76	106	103	99	103	96	84	77	87	95	85
PHILADELPHIA, PA., U. S. A.																			
0	1	2	3	1	7	26	13	7	1	44	52	50	44	36	28	15	15	15	1
50	36	33	34	34	42	52	63	52	43	72	76	74	74	68	57	46	57	65	56
75	45	42	42	43	52	60	71	64	55	79	83	80	82	76	65	56	68	77	68
85	49	47	47	49	57	64	75	69	61	83	86	84	85	80	69	58	73	82	73
95	54	57	57	58	69	75	83	80	75	90	92	90	92	88	79	66	84	91	85
100	72	74	74	74	87	92	96	96	96	100	102	101	102	100	96	79	100	102	102
ADM***	44	41	42	42	52	62	74	63	55	83	87	84	84	78	67	55	67	75	66

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
PHOENIX, ARIZ., U. S. A.																			
0	22	17	22	17	29	32	42	29	17	50	61	60	50	49	36	25	25	25	17
50	52	50	54	52	60	67	76	67	60	84	90	88	87	83	71	58	71	79	69
75	60	54	63	61	68	76	84	78	72	93	97	95	96	92	80	67	83	92	83
85	64	62	67	65	72	81	89	83	74	97	101	99	100	96	84	71	88	97	88
95	76	71	75	74	80	90	98	95	91	105	107	105	107	105	92	79	100	106	101
100	88	85	88	88	92	104	113	113	113	117	116	115	117	118	104	91	118	118	118
ADM***	68	65	70	67	76	84	94	84	76	102	105	102	103	98	88	76	87	95	85
PIETERSBURG, U. SO. AFRICA																			
0	46	45	40	40	41	32	27	27	27	21	21	28	21	28	39	40	28	21	21
50	71	71	70	70	68	64	57	63	66	52	52	56	53	62	67	69	66	59	63
75	77	77	77	78	74	71	66	71	76	59	60	63	61	70	74	76	75	69	73
85	80	80	80	81	77	74	67	75	79	62	64	67	65	74	77	80	79	74	78
95	85	87	86	87	86	80	74	83	87	69	71	74	73	81	85	87	87	84	87
100	96	96	94	96	93	88	84	93	96	79	82	85	85	92	97	99	99	99	99
ADM***	81	81	80	81	74	76	71	75	78	67	67	71	68	76	79	80	78	73	76
PISA, ITALY																			
0	30	23	27	21	29	41	45	29	21	52	55	55	52	49	42	35	35	35	21
50	50	48	49	49	52	57	66	57	53	70	75	75	73	71	65	56	66	68	61
75	55	56	56	55	57	63	69	65	61	76	80	79	79	76	70	61	73	77	71
85	57	58	58	57	60	64	71	68	65	78	83	81	82	78	72	63	76	80	75
95	60	60	61	62	66	68	77	75	76	81	89	86	88	83	76	67	80	88	85
100	65	65	66	66	76	76	86	86	86	89	99	92	99	89	82	73	89	99	99
ADM***	55	52	56	56	57	62	59	63	59	75	80	80	78	76	69	61	69	73	66
PITTSBURG, PA., U. S. A.																			
0	3	-6	-7	-7	12	20	32	12	-7	43	49	46	43	34	28	9	9	9	-7
50	31	29	30	30	39	49	60	49	39	69	72	79	70	65	53	41	53	62	51
75	38	38	39	40	46	57	67	59	52	75	79	77	77	73	60	49	66	76	65
85	42	41	44	44	50	61	70	63	57	78	82	80	81	77	63	53	70	79	73
95	51	49	56	56	58	71	77	73	69	85	88	87	86	85	71	61	81	88	85
100	66	60	69	69	72	87	87	87	87	96	99	97	99	97	83	72	97	99	99
ADM***	38	37	38	38	48	59	71	59	48	79	83	81	81	75	63	49	62	72	60
POINTE A PITRE, GUADELOUPE I.																			
0	58	56	56	56	56	58	60	56	56	57	57	57	57	63	59	60	59	57	56
50	72	71	70	71	70	72	74	72	71	75	75	76	75	76	75	74	75	75	73
75	75	76	76	75	76	76	77	76	76	79	79	80	79	79	79	77	79	79	78
85	77	76	76	77	75	77	79	78	78	80	80	81	83	80	83	79	83	81	80
95	81	80	81	81	79	80	82	81	82	83	83	84	84	84	85	84	85	86	85
100	88	86	88	88	85	85	87	87	88	86	86	88	86	89	92	93	92	92	92
ADM***	78	77	76	77	77	79	80	79	78	80	81	82	81	82	81	80	81	81	79
PORT-AU-PRINCE, HAITI																			
0	60	62	61	60	60	63	66	60	60	66	67	68	66	67	66	66	66	66	60
50	78	78	78	78	79	80	81	80	79	83	84	83	83	82	81	80	81	82	80
75	82	81	82	82	84	85	85	85	84	87	84	87	88	86	85	86	85	87	86
85	86	83	86	86	86	87	87	87	86	89	90	89	90	88	87	86	87	89	88
95	88	87	89	89	91	91	92	92	91	93	95	96	96	92	91	90	92	96	93
100	93	93	95	95	98	98	99	99	99	99	101	101	101	99	98	96	99	101	101
ADM***	87	87	88	87	89	89	89	89	88	92	94	93	93	91	90	88	90	91	90
PT. ELIZABETH, U. SO. AFRICA																			
0	44	45	46	44	45	42	31	31	31	33	32	32	32	35	39	42	35	[illegible]	31
50	67	70	70	69	68	66	61	66	66	57	56	58	57	59	62	65	62	[illegible]	[illegible]
75	73	76	77	76	75	71	68	71	76	63	63	65	64	67	69	72	70	[illegible]	[illegible]
85	77	79	81	80	79	75	72	78	80	66	67	70	69	72	73	76	75	73	77
95	94	85	90	89	88	85	81	88	90	76	76	80	80	83	82	86	86	86	87
100	96	98	104	104	104	101	95	104	104	88	90	98	98	103	97	104	104	104	[illegible]
ADM***	75	78	78	77	76	73	71	73	75	68	67	68	68	68	70	72	70	69	[illegible]
PT. HARCOURT, NIGERIA																			
0	60	60	60	60	64	63	65	61	60	61	65	64	61	64	62	68	62	63	60
50	79	79	82	80	80	81	80	80	80	79	78	77	78	78	76	80	79	78	79
75	83	84	87	85	86	86	86	85	85	83	81	83	82	82	82	83	83	82	84
85	85	85	89	87	87	87	85	88	87	85	83	83	84	84	83	84	85	86	86
95	89	89	93	92	91	91	89	92	92	89	86	87	88	88	86	88	89	89	93
100	93	94	98	98	99	95	94	99	99	95	92	94	95	95	90	93	95	95	99
ADM***	87	88	90	89	90	89	88	88	88	85	84	83	84	85	85	87	86	85	87
PT. MORESBY, PAPUA																			
0	70	69	62	69	70	65	70	65	65	66	66	66	66	68	68	69	66	66	66
50	83	83	82	82	82	81	81	81	82	79	78	78	78	79	83	82	83	79	81
75	88	88	85	86	85	85	83	85	85	83	81	81	82	83	86	85	86	83	85
85	88	88	87	88	87	87	85	87	86	86	83	82	83	86	85	87	86	85	87
95	92	92	90	92	90	93	88	91	92	87	88	85	86	88	89	91	90	90	91
100	97	98	96	98	96	98	94	96	98	91	90	90	93	[illegible]	94	96	96	96	98
ADM***	90	89	87	89	88	87	86	87	88	86	83	82	83	86	85	88	86	85	86
PORTO ALEGRE, BRAZIL																			
0	46	51	52	46	48	41	30	30	30	28	25	30	25	32	39	43	32	25	25
50	75	77	78	76	76	69	63	69	72	58	58	59	58	62	66	70	66	62	67
75	82	84	86	84	81	76	71	78	83	65	66	67	67	70	73	77	75	72	78
85	85	87	87	87	86	83	76	82	87	67	70	71	71	76	77	81	79	76	82
95	92	93	94	95	91	87	81	90	95	77	77	79	79	83	86	88	87	86	92
100	103	103	105	105	102	97	91	102	105	89	89	92	92	97	100	100	100	100	105
ADM***	85	87	87	86	83	78	71	77	82	66	66	68	67	70	76	80	75	71	76
PT. OF SPAIN, TRINIDAD																			
0	60	57	57	57	54	60	57	54	54	60	52	60	52	56	61	61	56	52	52
50	78	76	77	77	77	79	80	78	77	79	79	79	79	80	80	79	79	79	78
75	82	81	81	82	83	83	85	84	83	84	85	83	83	85	84	83	85	86	85
85	84	83	86	84	85	86	87	87	86	86	87	85	87	84	86	85	88	88	88
95	89	88	88	89	91	91	92	92	91	90	92	89	92	93	91	89	93	94	93
100	97	96	95	97	99	99	98	99	99	97	97	93	97	101	98	95	101	101	101
ADM***	85	85	86	86	87	88	89	88	87	87	87	87	87	88	88	87	88	87	87

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT F : GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QI*	MAR	APR	MAY	2QI	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
PRAGUE, CZECHOSLOVAKIA																			
0	-15	-16	-12	-16	5	21	30	5	-16	42	47	45	42	35	23	2	2	2	-16
50	32	30	35	31	39	48	57	48	40	64	66	65	65	59	49	43	50	57	49
75	42	40	43	42	48	55	65	59	54	70	72	71	72	65	56	52	62	71	64
85	45	45	46	46	51	59	68	64	60	75	75	75	75	69	59	55	67	76	70
95	52	47	52	53	59	68	77	75	75	82	84	85	84	76	67	60	76	86	82
100	60	55	57	60	71	85	91	91	91	95	98	98	98	89	78	64	89	98	98
ADM***	54	54	58	55	45	55	65	55	45	72	74	75	75	65	54	41	53	63	54
PRESTWICK, SCOTLAND																			
0	12	0	11	0	7	19	25	7	0	29	35	15	29	25	17	16	16	16	0
50	40	39	40	39	42	46	51	46	43	56	59	54	58	54	49	42	48	53	48
75	46	47	46	48	50	52	58	56	53	63	65	[illegible]	65	61	56	48	56	62	59
85	48	49	48	50	54	55	61	60	58	66	68	[illegible]	68	64	59	51	60	66	64
95	53	53	52	55	61	62	64	68	67	74	75	[illegible]	75	70	66	56	67	74	73
100	58	58	56	58	70	71	79	79	79	86	84	[illegible]	86	77	74	62	77	86	86
ADM***	43	43	44	43	48	53	59	53	48	64	66	65	65	61	54	47	54	60	54
PUERTO BARRIOS, GUATEMALA																			
0	67	69	69	69	54	59	80	54	69	64	62	60	60	60	58	52	52	52	69
50	75	74	76	75	78	80	81	80	77	81	81	82	81	81	79	76	78	80	78
75	80	80	82	81	83	85	86	85	84	85	85	88	86	85	84	81	84	86	85
85	83	82	84	83	85	87	84	88	86	87	87	84	88	88	86	84	87	86	84
95	87	88	84	87	90	91	91	92	91	91	91	92	92	92	93	88	91	92	92
100	92	90	93	93	95	97	96	97	97	97	95	96	97	97	96	95	97	97	97
ADM***	81	81	82	81	84	86	87	86	83	87	87	88	87	87	86	83	85	86	85
PUERTO CABELLO, VENEZUELA																			
0	67	67	68	68	65	51	52	65	65	55	52	55	52	55	54	51	51	51	45
50	68	68	67	67	69	71	71	70	68	70	70	70	70	71	70	69	70	70	69
75	73	70	72	72	74	75	76	76	74	74	74	74	74	75	74	73	74	74	75
85	75	72	74	75	77	78	78	79	77	76	76	76	76	77	76	75	76	76	78
95	78	77	80	80	83	82	82	84	85	80	79	80	80	80	80	79	80	80	83
100	83	83	88	88	91	89	89	91	91	86	84	86	86	85	86	84	86	86	93
ADM***	78	75	77	77	79	81	80	80	78	78	78	79	78	80	79	77	79	78	74
QUITO, ECUADOR																			
0	54	57	54	54	60	60	55	55	54	56	55	58	55	55	52	55	52	52	52
50	59	59	59	59	59	59	59	59	59	58	58	59	58	59	59	59	56	59	59
75	65	65	65	65	64	63	64	65	65	64	64	65	65	65	65	65	64	65	66
85	68	67	68	68	67	66	67	67	68	66	67	68	68	68	69	67	69	69	69
95	73	72	73	73	72	71	72	72	73	71	72	73	76	76	76	73	76	76	76
100	81	79	80	81	80	78	79	80	81	78	79	82	82	83	86	80	86	86	86
ADM***	72	72	71	72	71	70	70	70	71	71	72	73	72	73	72	72	72	72	72
RANGOON, BURMA																			
0	55	55	58	55	61	68	69	61	55	71	70	68	68	72	71	65	61	61	55
50	78	77	80	78	84	87	85	85	82	81	81	81	83	81	82	81	81	81	81
75	83	83	85	84	90	91	89	91	84	84	85	84	84	84	85	85	88	86	84
85	85	85	88	87	92	96	91	94	91	88	85	85	88	85	86	87	88	88	91
95	90	91	93	92	97	99	95	99	97	90	88	88	91	88	90	95	91	92	97
100	96	100	101	101	105	106	105	106	106	98	95	95	98	84	85	85	95	98	106
ADM***	88	89	92	90	95	97	92	95	92	86	85	85	85	86	88	88	87	86	89
RAWALPINDI, PAKISTAN																			
0	28	26	31	26	36	41	52	36	26	85	69	68	85	58	45	55	55	55	26
50	51	52	55	53	64	73	84	73	63	92	81	89	90	84	75	62	75	81	72
75	60	58	61	60	71	81	92	84	74	98	97	96	97	90	81	69	85	95	85
85	65	61	65	64	76	85	96	89	80	102	101	94	101	95	86	72	87	98	90
95	71	67	73	73	82	96	105	100	94	109	109	105	109	100	95	80	97	108	103
100	85	76	88	84	91	108	118	118	118	120	122	118	122	150	101	91	110	122	122
ADM***	67	65	68	65	75	85	94	88	76	106	105	99	105	96	88	77	87	95	85
RECIFE, BRAZIL																			
0	70	71	69	69	69	59	69	69	69	64	64	64	64	66	64	69	66	64	64
50	81	83	82	81	85	80	79	80	81	74	76	76	76	78	80	81	79	78	79
75	84	86	85	85	86	85	81	85	84	80	78	77	80	81	82	83	82	81	83
85	85	88	89	89	86	84	82	84	85	82	82	81	81	82	84	85	84	85	85
95	88	89	89	89	89	88	85	88	89	85	85	84	84	85	87	87	87	86	89
100	92	96	93	94	94	95	90	94	94	89	87	88	89	90	91	91	91	91	94
ADM***	85	86	86	85	86	85	85	85	85	82	80	81	81	82	84	85	84	82	84
RESOLUTE BAY, N. W. TERRITORY																			
0	-51	-53	-54	-54	-55	-54	-20	-55	-55	8	24	17	8	0	-26	-43	-43	-43	-55
50	-21	-29	-31	-27	-23	-8	16	-5	-16	34	40	37	37	23	5	-9	6	23	3
75	-12	-21	-26	-18	-15	1	26	8	-6	40	44	42	44	29	12	-0	18	35	18
85	-4	-15	-20	-15	-9	5	27	15	2	43	46	44	47	31	15	4	23	41	25
95	2	-2	-10	-0	2	15	33	24	16	49	53	50	52	36	21	13	31	50	39
100	37	22	8	22	20	10	40	40	40	57	60	59	60	42	30	27	42	60	60
ADM***	-14	-22	-24	-20	-15	1	22	3	-9	38	45	41	41	27	11	-2	12	27	9
REYKJAVIK, ICELAND																			
0	4	5	4	4	6	13	19	6	4	32	39	34	32	27	14	30	10	10	4
50	36	32	33	33	35	38	45	39	36	50	53	52	52	47	40	36	43	46	41
75	41	38	37	40	41	44	51	47	44	54	57	57	57	52	46	41	48	55	50
85	43	41	41	42	44	47	53	50	47	58	60	59	59	54	49	44	52	58	54
95	44	45	45	47	50	52	58	56	54	61	65	64	65	60	53	48	58	65	62
100	53	50	50	53	54	59	64	64	64	69	74	71	74	68	58	53	68	74	74
ADM***	38	36	37	37	39	43	50	44	41	55	58	57	57	51	44	39	45	51	45
RIMINI, ITALY																			
0	29	20	26	20	29	38	44	29	20	51	56	58	51	54	42	35	35	35	20
50	45	55	45	48	49	57	63	56	52	71	77	76	75	71	61	53	61	68	60
75	51	60	50	54	55	62	68	63	60	76	82	81	81	75	66	57	69	76	70
85	53	62	53	57	57	65	70	66	64	78	84	83	83	78	68	60	72	80	75
95	58	64	58	62	64	71	75	73	71	85	88	89	89	84	72	65	81	87	84
100	67	65	67	67	74	81	82	82	82	90	95	98	98	94	79	74	94	98	98
ADM***	50	48	50	49	54	62	68	61	55	77	82	82	80	76	66	57	66	73	64

*1QI--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
RIO DE JANEIRO, BRAZIL																			
0	56	60	63	56	64	60	56	56	56	52	52	53	52	50	57	59	50	50	50
50	77	79	79	78	78	75	72	75	76	70	69	70	70	70	72	74	72	71	73
75	82	86	83	86	81	79	76	80	82	75	74	75	75	76	77	78	78	77	80
85	85	86	86	87	86	81	79	82	85	77	76	77	77	79	80	81	81	80	83
95	92	92	90	93	89	86	85	88	91	82	82	83	83	87	84	88	89	88	90
100	102	102	98	102	97	96	95	97	102	90	91	93	93	100	102	100	102	102	102
ADM***	82	86	85	86	83	80	77	80	82	76	75	76	76	75	77	79	77	76	79
RIYADH, SAUDI ARABIA																			
0	32	19	29	19	31	36	39	33	19	67	67	62	62	63	50	35	35	35	19
50	63	58	61	59	69	77	86	77	68	92	93	91	92	87	78	70	78	85	77
75	67	67	69	69	78	85	93	88	80	98	99	98	99	93	84	79	88	96	90
85	70	71	72	73	82	89	96	92	85	101	101	101	102	96	87	81	92	100	95
95	77	78	80	83	90	96	102	100	96	106	106	106	107	102	93	87	101	106	103
100	87	86	91	91	101	106	130	110	110	115	113	112	113	115	101	96	111	115	115
ADM***	70	70	73	71	82	89	100	90	81	107	107	107	107	102	96	88	93	100	90
ROME, ITALY																			
0	20	21	23	20	23	36	63	23	20	50	51	64	69	50	37	32	32	32	20
50	64	67	69	68	52	57	65	58	55	71	76	76	76	72	63	55	65	69	61
75	55	53	56	56	59	63	71	67	62	77	82	83	81	78	70	60	72	78	71
85	58	55	57	58	62	66	76	71	66	80	85	86	86	82	73	82	77	82	76
95	63	59	63	66	88	73	81	80	77	87	92	93	91	90	83	87	87	91	87
100	70	65	71	73	75	85	93	93	93	98	101	102	102	106	93	76	106	106	106
ADM***	56	56	56	55	62	68	76	88	62	82	88	88	86	83	73	63	73	80	71
SAIGON, VIET-NAM																			
0	57	57	61	57	66	58	70	66	57	67	67	68	67	69	68	66	66	66	57
50	79	80	81	80	86	83	86	86	82	82	82	82	82	83	81	80	81	83	82
75	86	83	86	86	89	90	88	90	88	86	85	85	86	86	86	86	85	86	88
85	87	87	89	88	91	92	90	92	91	88	87	87	88	86	88	88	87	88	91
95	91	92	96	96	98	97	95	97	96	92	90	90	93	90	89	90	91	95	96
100	97	98	102	102	103	106	102	106	106	100	96	95	100	96	96	95	96	100	106
ADM***	87	89	91	89	93	95	92	93	91	89	88	88	88	88	88	87	88	88	90
ST. CROIX, VIRGIN IS.																			
0	61	66	62	61	65	57	67	65	61	68	70	70	69	68	69	68	68	68	61
50	76	78	76	76	77	78	80	78	77	81	81	81	81	81	80	79	80	80	76
75	81	78	78	80	80	81	82	81	81	83	84	84	84	86	83	82	83	83	83
85	82	80	80	81	81	82	86	81	82	86	85	85	85	85	86	83	86	85	86
95	85	82	82	84	84	85	86	85	85	86	87	87	87	88	86	85	87	87	87
100	87	88	85	87	89	87	89	89	89	86	89	89	89	91	90	89	81	91	93
ADM***	82	80	81	81	82	83	84	83	82	85	86	86	86	86	85	86	85	85	86
ST. KITTS IS., LEEWARD IS.																			
0	61	66	62	61	65	57	67	65	61	69	70	70	69	68	69	68	68	68	61
50	78	76	78	78	77	78	80	78	77	81	81	81	81	81	80	79	80	80	79
75	81	78	79	80	80	81	82	81	81	83	84	84	84	84	83	82	83	83	83
85	82	80	80	81	81	82	84	83	82	86	85	85	85	85	84	83	84	85	84
95	85	82	82	84	84	84	88	85	85	85	87	87	87	88	86	85	87	87	87
100	87	88	85	87	89	87	89	89	89	89	89	89	89	81	90	89	91	91	93
ADM***	82	80	81	81	82	83	84	83	82	85	86	86	86	85	85	86	85	85	86
ST. LOUIS, MO., U. S. A.																			
0	1	-12	-4	-12	5	20	35	5	-12	68	56	56	68	36	27	7	7	7	-12
50	16	13	37	15	45	57	68	56	48	76	81	79	78	71	61	46	59	69	57
75	44	45	48	47	58	68	76	68	60	83	87	85	88	80	69	56	72	83	76
85	50	50	53	52	61	70	78	76	65	86	91	88	90	86	75	60	77	89	81
95	60	60	62	62	71	76	88	86	70	93	96	95	99	91	81	70	86	96	86
100	75	75	78	78	87	91	98	98	98	106	112	108	112	102	93	83	102	112	112
ADM***	44	41	45	43	56	66	75	65	56	85	90	88	87	80	70	56	66	78	66
ST. LUCIA, ST. LUCIA IS.																			
0	61	58	60	58	58	65	66	58	58	66	68	68	66	68	65	66	66	66	56
50	76	78	77	77	77	79	80	79	78	80	80	81	80	81	80	78	80	80	76
75	81	80	81	81	82	82	86	86	83	83	85	86	86	85	86	83	86	86	86
85	83	82	82	83	86	86	85	86	85	85	86	88	85	88	85	86	86	86	86
95	86	85	85	86	87	88	89	89	89	86	87	89	89	90	89	88	80	90	85
100	89	90	91	91	91	96	93	96	96	92	90	96	96	96	96	92	96	95	96
ADM***	86	83	86	86	85	88	87	88	85	86	85	87	88	88	87	86	87	87	80
ST. MAARTEN, NETH. ANTILLES																			
0	61	66	62	61	65	67	67	65	61	69	70	70	69	68	69	68	68	68	61
50	76	78	76	76	77	78	80	78	77	81	83	81	81	81	80	79	80	80	79
75	81	78	78	80	80	81	82	81	81	83	84	84	84	86	81	82	85	85	81
85	82	80	80	81	81	82	86	83	82	86	85	85	85	85	86	85	86	85	86
95	85	82	82	86	86	86	86	85	85	86	87	87	87	88	85	95	87	87	87
100	87	88	85	87	89	87	89	89	89	89	89	89	89	91	90	89	91	91	91
ADM***	82	80	81	81	82	81	86	83	82	85	86	86	86	86	85	86	85	85	86
ST. THOMAS, VIRGIN IS.																			
0	52	63	62	62	65	65	66	63	62	66	70	64	66	69	68	66	66	66	62
50	77	75	75	75	76	77	79	77	76	80	80	81	80	83	80	78	80	80	78
75	80	78	78	79	79	80	82	81	80	83	81	84	84	86	83	82	83	83	82
85	82	80	80	81	81	82	86	83	82	85	86	85	85	85	85	83	85	85	86
95	85	83	86	85	85	86	88	87	87	89	87	87	89	89	89	87	89	89	88
100	90	88	91	91	91	93	96	96	96	93	92	96	96	96	96	93	96	96	96
ADM***	81	80	80	80	81	82	86	82	81	86	86	85	86	86	85	83	85	85	83
ST. VINCENT, WINDWARD IS.																			
0	61	59	60	59	56	63	66	56	56	66	68	66	66	68	65	66	66	66	56
50	78	76	77	77	77	79	80	79	78	80	80	81	80	81	80	79	80	80	79
75	81	80	81	81	82	82	86	86	81	83	83	86	86	85	86	83	86	86	86
85	83	82	82	83	86	86	85	86	85	85	86	86	85	86	85	86	86	86	86
95	86	85	86	86	87	88	88	89	89	88	87	89	89	90	89	88	90	90	91
100	89	90	91	91	91	96	93	96	96	92	90	96	96	96	96	92	96	96	96
ADM***	86	83	86	86	85	86	87	86	85	86	86	87	86	88	87	86	87	87	86

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
SAL ISLAND, CAPE VERDE IS.																			
0	56	50	51	50	50	54	54	50	50	61	54	65	54	65	50	54	50	50	50
50	73	70	69	71	70	71	72	71	71	74	76	77	76	77	76	75	76	76	73
75	77	75	73	75	75	75	76	76	75	77	81	80	81	80	81	80	81	81	79
85	78	76	75	77	77	77	77	78	77	79	83	82	83	81	83	82	83	83	81
95	82	79	79	81	81	80	81	81	81	82	86	85	86	85	86	85	87	87	85
100	86	82	85	86	86	86	85	86	86	87	90	89	90	90	89	88	90	90	90
ADM***	76	76	72	76	76	75	76	75	75	78	81	81	80	79	78	79	79	79	77
SALISBURY, SO. RHOD.																			
0	49	47	49	47	46	43	36	36	36	32	32	34	32	37	44	46	37	32	32
50	70	69	69	69	68	67	62	65	67	57	57	61	58	66	71	71	69	64	65
75	75	75	74	75	73	72	68	72	75	63	63	67	65	73	77	77	77	72	74
85	78	77	76	78	76	75	70	75	78	66	66	71	69	76	80	80	80	75	77
95	83	82	81	83	80	81	76	81	84	71	73	78	76	83	85	86	86	83	85
100	92	90	88	92	86	89	83	89	92	79	82	88	88	92	93	95	95	95	95
ADM***	79	78	78	78	78	78	74	77	77	70	70	74	71	79	83	81	81	76	77
SAN ANTONIO, TEX., U. S. A.																			
0	14	0	6	0	21	34	44	21	0	58	65	63	58	41	34	25	25	25	0
50	53	51	55	53	61	69	76	69	61	82	86	86	84	79	71	60	70	77	69
75	63	62	67	65	71	77	86	80	75	88	89	90	90	88	80	68	81	68	86
85	67	67	71	70	76	83	87	86	80	91	92	92	93	91	83	72	85	92	89
95	77	76	80	80	85	89	93	92	90	97	97	96	98	96	89	80	93	99	94
100	90	87	91	91	97	99	101	101	101	105	106	106	106	102	95	91	102	106	106
ADM***	64	61	66	64	73	80	87	80	72	92	95	96	96	90	83	71	81	88	80
SAN DIEGO, CALIF., U. S. A.																			
0	36	29	36	29	41	41	48	41	29	50	55	57	50	51	45	40	40	40	29
50	57	55	56	56	58	61	63	61	58	66	69	70	68	69	65	61	65	67	62
75	63	62	62	63	63	66	69	67	67	71	73	75	74	75	71	67	72	74	72
85	66	68	66	67	67	70	72	71	71	74	76	74	77	78	74	73	77	79	76
95	73	76	76	75	76	78	81	80	81	83	81	85	85	88	92	80	87	86	87
100	85	88	88	88	86	92	96	96	96	97	89	98	98	104	96	96	104	104	104
ADM***	66	64	65	65	67	68	70	68	67	72	76	77	75	74	73	71	73	74	70
SANDY POINT, W. I.																			
0	61	66	62	61	65	67	67	65	61	69	70	70	69	68	69	68	68	68	61
50	78	78	76	76	77	78	80	78	77	81	81	81	81	81	80	79	80	80	79
75	81	78	79	80	80	81	82	81	81	83	84	84	84	84	83	82	83	83	83
85	82	80	80	81	81	82	84	83	82	83	85	85	85	85	84	83	84	85	84
95	85	82	82	84	84	86	88	85	85	86	87	87	87	88	86	85	87	87	87
100	87	86	85	87	89	87	89	89	89	89	89	89	89	91	90	89	91	91	91
ADM***	82	80	81	81	82	83	84	83	82	85	86	86	86	86	85	84	85	85	84
SAN FRANCISCO, CALIF., USA																			
0	20	26	25	20	30	31	36	30	20	41	43	42	41	38	34	25	25	25	20
50	47	48	51	49	53	54	57	54	52	60	60	61	60	62	59	56	59	59	56
75	56	56	58	57	59	61	63	62	61	64	67	66	67	69	67	62	66	69	66
85	60	57	61	60	63	65	67	66	66	71	72	70	72	74	71	66	73	74	71
95	66	63	68	67	71	73	77	77	77	82	83	78	83	84	80	73	84	86	84
100	76	72	78	74	85	88	96	96	96	101	106	92	106	102	96	96	102	106	106
ADM***	57	56	59	57	61	63	65	63	60	69	69	70	69	72	69	66	69	69	65
SAN JOSE, GUATEMALA																			
0	49	49	51	49	50	53	54	50	49	57	56	56	56	56	55	52	52	52	49
50	67	67	67	67	69	71	71	70	68	71	70	70	70	70	69	69	69	69	69
75	71	71	72	72	74	75	75	75	74	75	73	73	74	74	72	73	73	74	74
85	74	74	74	74	77	77	77	78	76	77	75	75	77	76	74	75	75	77	77
95	79	79	79	79	82	82	82	83	82	83	79	79	83	80	78	78	80	83	83
100	87	87	88	88	91	89	88	91	91	92	84	85	92	86	85	84	86	92	92
ADM***	75	75	76	75	77	79	80	79	77	79	77	78	78	77	77	77	78	78	78
SAN JUAN, PUERTO RICO																			
0	62	63	62	62	65	65	66	63	62	66	70	68	68	69	68	66	66	66	62
50	77	75	75	75	78	77	79	77	76	80	80	81	80	81	80	78	80	80	78
75	80	78	78	79	79	80	82	81	80	83	83	84	84	84	83	82	83	83	82
85	82	80	80	81	81	82	84	83	82	85	86	85	85	85	85	83	85	85	84
95	85	83	84	85	85	86	88	87	87	88	87	89	89	89	89	87	89	89	89
100	90	89	91	91	91	93	96	96	96	93	97	96	96	96	96	93	96	96	96
ADM***	81	80	80	80	81	82	84	87	81	86	86	85	86	86	85	83	85	85	83
SAN PEDRO SULA, HONDURAS																			
0	49	49	49	49	56	59	60	56	49	64	62	60	60	60	54	52	52	52	49
50	75	76	76	75	78	80	81	80	77	81	81	82	81	81	79	76	78	80	78
75	80	80	82	81	83	85	88	85	84	85	85	88	86	85	84	81	84	86	85
85	83	82	84	83	85	87	88	88	88	87	87	88	88	88	86	84	87	88	88
95	87	86	88	87	90	91	93	92	91	91	91	92	92	92	90	88	91	92	92
100	92	90	93	93	95	97	96	97	97	97	95	96	97	97	96	95	97	97	97
ADM***	81	81	82	81	84	86	87	86	85	87	87	88	87	87	86	83	85	86	85
SAN SALVADOR, BAHAMAS																			
0	47	45	49	45	45	56	58	45	45	56	58	60	56	53	54	49	49	49	45
50	75	75	76	75	78	79	79	79	77	77	77	78	77	77	76	75	76	76	77
75	82	82	83	83	86	85	85	87	85	82	82	82	82	82	82	82	83	83	85
85	85	86	86	86	89	88	87	90	88	84	85	85	85	85	85	85	86	86	86
95	92	92	93	93	96	95	96	97	95	90	90	90	90	91	91	92	92	93	95
100	101	101	103	103	105	106	103	105	105	98	98	98	98	99	101	102	102	102	105
ADM***	89	90	92	90	94	93	91	93	91	87	89	89	88	87	87	87	87	88	90
SANTA MARIA, AZORES																			
0	39	38	39	38	42	41	47	41	38	52	57	61	52	53	51	48	48	48	38
50	60	58	58	59	58	60	62	60	59	67	71	73	70	71	67	63	67	68	64
75	65	63	62	63	62	64	66	64	64	71	74	76	75	75	70	66	71	74	70
85	66	64	64	65	63	66	67	66	66	73	76	78	77	77	72	68	74	76	73
95	69	67	67	68	66	69	71	70	71	76	80	82	81	81	76	72	79	81	79
100	71	70	70	71	70	73	76	76	76	82	87	88	88	86	82	77	86	88	88
ADM***	64	62	62	63	62	64	67	64	63	72	76	79	76	76	71	67	71	73	68

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
SANTIAGO, CHILE																			
0	36	43	43	16	38	33	27	27	27	26	24	26	24	31	32	37	31	24	24
50	67	69	68	68	65	60	53	59	64	48	48	51	49	54	59	63	59	54	59
75	75	76	75	76	72	66	60	67	73	54	55	58	56	61	66	70	66	62	68
85	79	77	78	80	75	70	64	72	77	58	59	61	60	65	70	74	71	67	73
95	87	84	86	88	83	77	73	80	86	66	67	70	69	73	78	83	81	78	83
100	99	96	98	99	94	88	87	94	99	80	81	85	85	88	92	97	97	97	99
ADM***	83	85	84	84	80	74	65	73	79	58	59	62	60	66	72	78	72	66	72
SANTO DOMINGO, DOM. REPUBLIC																			
0	62	59	60	59	60	62	65	60	59	67	68	64	64	68	64	61	61	61	59
50	76	75	76	76	76	77	79	77	76	80	80	81	80	80	80	78	79	80	78
75	80	79	80	80	80	81	82	81	81	83	84	83	84	84	83	83	83	84	83
85	82	81	82	82	82	81	84	84	81	85	86	87	86	86	85	85	86	87	85
95	87	86	86	87	87	88	88	88	88	89	90	91	91	90	89	90	91	91	90
100	95	92	93	95	94	95	96	95	95	96	98	98	98	98	95	97	98	98	98
ADM***	85	84	85	85	84	85	86	85	85	87	88	88	88	88	87	86	87	87	86
SAO PAULO, BRAZIL																			
0	54	59	60	54	60	56	50	50	50	41	44	44	41	47	51	55	47	41	41
50	76	78	79	78	77	75	71	74	76	68	67	67	67	69	71	74	71	69	72
75	81	84	84	83	82	80	76	81	83	75	71	71	74	74	77	79	78	77	81
85	85	87	86	87	85	83	80	84	86	78	77	77	78	79	80	83	82	81	85
95	92	94	92	94	92	91	87	92	94	85	84	85	88	88	89	90	90	90	96
100	106	107	102	107	106	106	99	106	107	96	96	99	99	101	106	102	106	106	107
ADM***	82	84	83	84	83	81	77	80	82	75	74	71	74	75	76	79	77	75	79
SAO TOME, SAO TOME IS.																			
0	67	64	68	67	68	68	65	65	65	61	59	50	56	62	60	65	62	56	56
50	79	80	80	79	80	80	79	80	79	77	76	76	76	77	78	78	77	77	78
75	81	82	82	82	83	82	82	83	81	81	79	80	81	81	80	81	81	83	83
85	82	84	84	84	84	84	84	84	84	82	81	81	82	82	82	82	82	83	83
95	85	86	87	87	87	87	86	87	87	85	84	84	85	85	85	85	85	86	86
100	89	90	91	91	91	91	90	91	91	88	87	87	88	89	89	89	89	89	91
ADM***	84	86	84	85	87	86	85	86	86	83	82	82	82	84	84	84	84	83	84
SARAJEVO, YUGOSLAVIA																			
0	8	-16	5	-16	6	25	28	6	-16	40	43	40	40	30	35	33	31	11	-16
50	35	31	15	33	42	51	58	50	42	64	64	69	67	51	51	43	52	40	51
75	42	41	43	44	51	58	60	61	55	70	75	76	75	71	60	51	63	72	60
85	45	44	40	49	55	62	69	60	61	76	78	80	79	75	63	54	69	77	75
95	52	51	54	56	64	71	77	75	71	85	80	90	88	84	70	61	81	88	86
100	61	58	66	66	75	88	88	88	88	92	98	104	104	100	78	75	100	104	104
ADM***	41	37	42	40	51	62	69	61	50	75	80	81	79	75	60	50	62	70	60
SEATTLE, WASH. U. S. A.																			
0	16	0	1	0	11	29	28	11	0	38	41	44	38	36	28	6	6	6	0
50	40	37	41	37	45	49	55	50	44	60	64	64	62	59	52	44	51	57	55
75	46	46	50	48	55	55	62	59	56	67	70	69	69	65	58	55	62	69	65
85	48	49	55	52	58	59	68	64	61	75	76	75	71	68	61	57	67	76	69
95	56	56	59	58	61	67	76	75	72	80	82	80	82	76	69	64	76	84	80
100	61	60	60	60	72	82	87	87	87	96	96	92	96	85	80	76	88	96	96
ADM***	45	41	48	45	52	58	65	58	52	70	75	76	73	68	59	50	59	60	59
SEOUL, KOREA																			
0	-12	-8	-5	-12	5	25	16	5	-12	49	55	58	49	38	25	15	11	11	-12
50	24	26	29	27	38	52	62	50	19	71	77	79	76	49	50	42	55	65	52
75	19	32	17	36	47	59	68	62	52	77	83	84	82	76	64	50	60	78	67
85	42	35	41	41	51	62	72	66	58	80	85	87	85	79	68	53	71	82	75
95	49	41	49	49	59	70	79	76	71	87	90	92	91	86	75	62	79	90	85
100	58	54	61	61	72	85	90	90	93	99	98	99	99	91	84	76	91	99	99
ADM***	37	12	17	15	47	62	72	60	60	89	84	87	84	78	67	55	65	76	61
SEVILLE, SPAIN																			
0	27	27	29	27	32	19	37	32	27	41	52	56	41	44	43	32	32	32	27
50	52	50	55	52	58	62	69	65	57	76	82	81	80	77	68	58	67	76	65
75	58	56	59	58	66	68	77	71	66	85	89	90	90	84	75	65	77	85	78
85	61	59	63	62	68	72	81	76	71	90	91	96	96	88	78	67	82	90	82
95	65	66	65	69	75	79	89	86	83	99	101	105	106	96	87	73	92	101	95
100	72	71	80	80	86	91	102	102	102	113	116	117	117	109	102	82	109	117	117
ADM***	60	59	62	60	67	75	80	73	67	89	96	97	96	89	78	67	78	86	76
SHANGHAI, CHINA																			
0	16	10	17	10	21	10	37	21	10	51	61	65	51	44	36	23	23	23	10
50	45	40	41	42	64	59	68	58	50	75	82	82	80	76	66	56	65	72	61
75	52	47	48	50	55	66	76	67	60	81	87	87	87	81	73	62	75	83	73
85	56	51	51	55	60	70	74	72	66	86	90	90	90	85	76	66	74	87	77
95	64	60	64	65	70	79	85	82	76	92	96	96	96	91	83	76	88	95	89
100	75	76	83	83	80	95	96	90	96	105	106	106	106	100	92	86	100	106	106
ADM***	55	46	47	49	55	66	77	66	57	82	90	90	87	82	76	65	75	80	69
SHANNON, LIMERICK, IRELAND																			
0	21	12	19	12	18	26	29	18	12	35	40	17	35	31	26	20	20	20	12
50	45	41	42	42	44	44	51	49	45	58	60	61	59	58	52	46	52	55	50
75	48	47	47	49	52	56	59	56	54	64	65	67	66	64	58	52	59	64	60
85	50	50	50	51	54	56	62	60	58	67	68	69	69	66	60	55	62	66	65
95	55	51	54	56	59	61	68	67	65	73	75	75	76	70	66	59	68	76	74
100	61	57	59	61	65	69	77	77	77	82	87	86	87	75	70	65	75	87	87
ADM***	48	46	47	47	52	55	61	56	52	66	66	68	67	64	58	52	58	62	57
SHARJAH, OMAN																			
0	47	37	46	37	46	55	61	46	37	67	71	71	67	69	64	54	54	54	37
50	58	64	66	66	70	76	85	76	71	87	91	93	90	88	82	76	82	86	78
75	73	70	72	73	77	82	88	84	80	93	96	98	97	93	86	81	89	94	89
85	76	73	76	76	81	85	91	88	85	95	99	101	100	96	89	84	93	98	94
95	81	78	81	82	90	92	98	96	94	102	106	107	107	103	95	89	101	106	104
100	88	85	91	91	104	105	109	109	109	112	117	119	118	115	104	97	133	118	118
ADM***	78	74	75	76	80	86	93	86	81	97	100	103	100	99	92	87	93	96	89

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
SHEMYA IS., ALASKA, U. S. A.																			
0	18	18	18	18	19	21	30	19	18	33	39	41	33	38	28	23	23	23	18
50	33	32	31	32	32	35	38	35	33	42	46	50	46	48	42	37	42	44	39
75	37	35	34	36	35	38	40	39	37	45	49	52	50	50	46	40	47	49	44
85	38	36	36	37	36	40	41	40	39	46	51	53	52	51	47	41	49	52	47
95	42	39	38	41	38	42	44	43	42	50	55	56	56	54	50	44	53	56	53
100	46	42	42	46	41	44	47	47	47	57	63	60	63	58	54	48	58	63	63
ADM***	36	34	34	34	35	38	41	38	36	44	49	52	48	50	45	39	45	47	41
SINGAPORE, STR. SETTLEMENTS																			
0	69	68	66	66	67	70	70	67	66	70	70	69	69	69	69	69	69	69	66
50	81	80	81	80	82	82	82	82	81	82	82	81	81	81	81	81	81	81	81
75	84	83	84	84	85	85	85	85	85	85	84	84	85	84	84	83	84	84	85
85	85	84	86	85	87	86	87	87	87	86	86	86	86	86	85	85	85	86	87
95	88	88	89	89	90	90	91	91	91	90	89	89	90	89	88	88	88	89	91
100	93	93	94	94	94	95	97	97	97	95	93	93	95	93	93	92	93	95	97
ADM***	87	86	88	87	88	88	89	88	88	88	88	87	88	87	87	87	87	87	87
SKOPJE, YUGOSLAVIA																			
0	1	-11	0	-11	2	26	29	2	-11	42	48	42	42	36	25	12	12	12	-11
50	36	33	37	35	45	55	63	54	45	70	74	74	73	67	54	45	55	64	54
75	45	44	47	47	56	62	71	66	59	77	81	82	81	75	62	53	67	78	70
85	49	48	51	52	62	66	75	72	65	81	85	85	84	80	67	56	72	82	76
95	58	56	61	61	74	74	84	83	78	88	93	93	93	89	76	63	85	92	89
100	70	67	75	75	94	86	97	97	97	89	105	105	105	103	92	71	103	105	105
ADM***	43	40	44	43	55	67	75	66	54	83	88	89	87	81	65	53	66	76	65
SOERABAJA, INDONESIA																			
0	68	70	70	68	69	65	62	62	62	50	58	61	50	62	64	67	62	58	58
50	81	81	81	81	81	81	81	81	81	79	79	79	79	80	82	84	82	80	81
75	84	84	84	84	84	85	85	85	85	83	83	83	84	84	86	87	86	85	86
85	86	85	85	86	86	86	86	87	87	85	85	85	86	86	87	89	86	87	88
95	90	88	89	90	89	89	89	90	91	88	89	89	89	89	91	92	92	91	92
100	95	92	94	95	93	92	93	93	95	93	93	94	94	93	95	96	96	96	96
ADM***	88	88	88	88	88	88	88	88	88	87	87	87	87	89	90	90	90	88	88
SOFIA, BULGARIA																			
0	-5	-17	-9	-17	5	21	33	5	-17	40	44	43	40	29	26	13	13	13	-17
50	32	28	32	31	42	52	60	51	41	65	70	69	68	62	53	43	52	60	50
75	41	39	42	42	51	60	67	62	55	72	76	76	75	70	60	50	63	72	66
85	45	43	44	44	55	64	70	67	61	75	80	79	79	76	64	54	68	76	72
95	53	51	53	54	64	72	78	77	73	82	87	87	87	83	73	63	79	84	84
100	65	61	63	65	78	85	90	90	90	92	94	99	99	95	84	76	85	99	99
ADM***	37	34	39	[illegible]	51	62	70	61	49	76	82	82	80	76	63	50	62	71	60
SONDRESTROMFJORD, GREENLAND																			
0	-34	-45	-46	-46	-42	-35	-13	-42	-46	21	28	24	21	8	-6	-16	-16	-16	-46
50	10	1	-2	3	5	15	32	17	10	41	46	44	43	36	26	17	26	35	22
75	21	12	10	15	16	27	41	31	24	44	51	49	50	43	34	26	37	47	38
85	26	18	16	21	21	32	45	37	30	49	53	52	53	44	38	33	42	52	45
95	36	30	28	34	32	42	53	44	43	56	60	57	60	54	44	40	51	60	56
100	52	49	49	52	48	55	62	62	62	67	71	66	71	65	58	54	65	71	71
ADM***	15	8	6	10	14	24	34	25	17	46	51	50	49	41	31	22	31	40	24
SPLIT, YUGOSLAVIA																			
0	21	17	14	17	27	33	42	27	17	50	50	54	50	45	37	26	26	26	17
50	47	45	44	44	51	58	64	58	52	72	78	72	74	72	62	54	63	68	60
75	53	51	53	53	57	64	70	66	61	77	84	77	80	79	68	60	72	76	71
85	55	54	55	56	60	66	73	70	66	80	87	80	83	81	71	63	76	87	76
95	59	59	61	61	65	72	80	78	76	87	93	87	90	87	78	68	84	90	88
100	65	64	68	68	72	78	91	91	91	97	100	99	100	95	87	73	85	100	100
ADM***	52	51	53	52	58	65	72	65	59	80	87	87	85	80	69	58	68	77	68
STANLEYVILLE, BELGIAN CONGO																			
0	61	63	65	61	62	64	65	62	61	64	63	63	63	62	64	64	62	62	61
50	77	79	78	78	79	79	78	79	78	78	76	76	76	77	77	77	77	76	77
75	81	83	82	83	83	83	82	83	83	81	79	79	80	80	81	80	81	80	82
85	83	85	84	85	85	85	83	85	85	83	81	81	82	82	82	82	83	83	84
95	88	90	89	90	89	89	88	89	90	87	85	85	86	87	87	87	88	87	86
100	95	97	97	97	96	95	96	96	97	93	92	92	93	93	93	95	95	95	97
ADM***	86	88	88	87	88	88	87	88	87	86	86	83	86	85	86	85	85	85	86
STOCKHOLM, SWEDEN																			
0	-7	-26	-22	-26	-14	-8	20	-14	-26	32	40	36	32	26	14	0	0	0	-26
50	30	27	27	28	32	39	49	40	36	57	63	60	60	52	44	35	43	51	43
75	34	34	37	39	42	50	57	53	48	64	69	66	66	59	50	42	56	66	50
85	41	42	41	43	45	55	61	58	55	68	73	70	72	63	53	45	56	70	66
95	46	47	48	49	52	64	70	69	67	77	82	78	81	71	59	51	66	81	79
100	52	51	56	56	59	77	86	86	86	91	97	91	97	84	68	57	86	87	97
ADM***	33	31	31	32	37	45	57	44	39	65	70	66	57	58	48	38	48	58	48
SYDNEY, AUSTRALIA																			
0	48	51	49	48	49	45	40	40	40	36	36	37	36	41	42	46	41	36	36
50	70	72	72	71	70	65	59	64	68	55	53	56	56	59	64	67	63	59	63
75	77	79	78	79	76	70	65	72	76	60	58	61	60	65	70	74	70	66	72
85	81	81	82	83	79	73	68	76	81	63	61	64	63	68	74	78	75	71	78
95	91	94	92	94	88	80	75	86	93	69	67	71	70	77	81	87	85	83	91
100	107	114	108	114	103	91	86	101	114	80	78	82	82	92	99	103	103	103	114
ADM***	77	78	76	78	76	71	68	71	74	61	60	63	61	67	71	74	71	66	70
TAHITI, SOCIETY IS.																			
0	66	67	67	66	67	67	65	65	65	61	61	61	61	62	62	64	62	61	61
50	80	81	81	80	81	81	79	80	80	78	77	77	77	78	79	80	79	78	79
75	83	84	84	84	84	84	82	83	84	81	81	81	81	81	82	83	82	82	83
85	85	86	85	86	85	85	83	85	86	83	82	82	83	82	84	84	84	83	85
95	87	89	88	89	88	88	87	88	89	86	85	84	86	85	86	87	87	86	89
100	91	95	92	95	92	92	91	92	95	90	89	86	90	87	89	90	90	90	95
ADM***	88	89	89	89	89	89	87	88	88	86	86	86	86	86	87	88	87	87	87

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
TAIPEI, FORMOSA																			
0	35	37	32	32	35	46	50	35	32	60	67	66	60	56	51	34	34	34	32
50	63	60	59	61	64	70	76	70	65	81	84	83	83	81	74	69	74	78	72
75	70	66	66	68	71	76	82	74	74	86	88	87	88	86	80	76	83	88	81
85	73	69	70	71	74	79	85	82	78	88	90	89	90	88	82	80	86	91	85
95	79	76	77	78	81	86	91	89	86	93	95	94	95	92	88	85	92	97	92
100	88	86	88	88	91	95	98	94	98	99	101	100	101	97	95	92	97	101	101
ADM***	69	66	65	67	70	77	81	77	72	89	92	91	91	88	81	75	81	86	79
TAMPA, FLA., U. S. A.																			
0	19	23	22	19	31	38	52	31	19	59	64	66	59	54	42	31	31	31	19
50	65	62	61	62	66	72	77	71	67	80	82	82	81	81	75	67	76	78	72
75	72	70	72	72	74	79	82	80	78	86	86	86	87	86	82	75	83	88	84
85	76	73	75	75	78	82	85	84	82	84	88	88	89	89	85	78	86	91	87
95	81	79	81	81	84	86	90	90	89	92	92	92	93	92	90	83	92	95	93
100	86	85	87	87	92	91	94	96	96	98	98	97	98	96	95	88	96	98	98
ADM***	72	71	72	72	75	81	86	81	76	89	90	90	89	88	83	76	83	86	81
TANANARIVE, MADAGASCAR																			
0	52	55	52	52	51	45	40	40	40	34	37	35	34	38	42	42	38	34	34
50	70	70	70	70	70	67	64	67	68	60	58	59	59	63	67	70	66	63	65
75	75	75	76	75	76	71	69	73	75	66	63	65	65	69	74	76	74	70	73
85	77	77	77	77	76	75	72	76	78	68	66	68	68	73	77	79	77	76	77
95	83	82	82	83	81	80	77	81	84	73	72	75	75	80	84	85	84	82	84
100	91	91	90	91	87	87	85	87	91	80	80	85	85	92	95	94	95	95	95
ADM***	80	79	78	79	79	76	73	76	76	69	68	70	69	76	80	81	78	76	76
TARAKAN, BORNEO																			
0	67	68	67	67	68	69	71	68	67	67	69	68	67	69	69	70	69	67	67
50	80	79	80	80	80	81	81	80	80	80	81	81	80	81	81	80	80	80	80
75	83	82	83	83	83	83	83	83	83	83	84	84	84	83	83	83	83	84	84
85	85	85	85	85	84	85	84	85	85	85	85	85	85	85	85	84	85	85	85
95	87	86	88	88	87	87	87	88	89	87	88	88	88	88	88	87	88	88	89
100	91	91	94	94	91	91	92	92	94	91	93	92	93	92	92	92	92	93	94
ADM***	86	85	86	86	86	86	87	86	86	86	87	87	87	87	87	86	87	87	86
TEGUCIGALPA, HONDURAS																			
0	44	43	40	43	43	51	55	43	41	54	55	56	54	54	52	47	47	47	41
50	70	69	71	70	74	75	76	75	72	74	73	74	73	75	72	71	73	73	72
75	76	76	77	76	81	81	81	82	79	78	78	78	78	80	77	76	79	79	80
85	79	79	80	79	84	83	81	85	82	81	80	80	81	82	78	77	83	82	83
95	84	85	85	85	89	89	88	90	88	85	84	84	85	86	81	80	85	86	89
100	92	94	94	94	96	97	96	97	97	92	91	91	92	91	85	82	93	92	97
ADM***	81	82	85	82	88	88	84	88	85	84	84	84	84	83	82	81	82	83	84
TEHERAN, IRAN																			
0	10	-5	4	-5	16	28	39	16	-5	51	59	57	51	47	38	19	19	19	-5
50	42	38	41	40	49	60	70	60	50	80	88	84	83	77	65	51	65	76	62
75	50	48	50	50	58	68	74	71	63	87	92	91	91	84	71	62	76	86	77
85	53	49	53	54	62	72	81	75	69	90	95	94	94	87	74	65	80	91	84
95	59	56	59	63	71	80	89	85	82	97	101	100	100	93	81	73	89	99	95
100	68	65	67	68	85	91	99	99	99	107	109	109	109	101	95	86	101	109	109
ADM***	51	45	50	49	59	71	82	71	60	93	99	97	96	90	76	63	76	86	73
TEL AVIV, ISRAEL																			
0	33	29	27	27	31	40	50	33	27	56	63	63	56	61	47	44	44	44	27
50	61	57	59	59	62	68	76	68	65	78	82	83	81	81	77	69	76	76	71
75	67	66	66	67	71	76	81	76	76	86	86	87	87	87	84	76	84	87	82
85	70	68	70	70	75	80	85	83	79	88	88	89	91	90	88	79	87	90	87
95	76	72	77	77	86	91	95	96	92	96	91	93	98	96	95	86	95	98	97
100	85	79	87	87	106	109	112	112	112	109	96	99	109	107	106	97	107	109	112
ADM***	64	65	67	67	71	77	83	77	72	85	88	90	88	89	85	78	86	86	79
THULE, GREENLAND																			
0	-37	-37	-41	-41	-38	-28	-4	-38	-41	22	28	26	22	6	-11	-28	-28	-28	-41
50	-9	-8	-13	-10	-11	-1	22	4	-3	36	41	38	38	27	16	5	16	27	12
75	-1	1	-6	-0	-2	7	29	16	4	40	45	42	43	32	23	13	26	39	25
85	4	6	2	5	5	11	32	19	13	42	47	44	45	36	27	17	31	44	31
95	16	17	16	16	16	21	37	26	25	48	51	49	50	39	36	26	39	51	43
100	35	36	36	36	34	37	44	44	44	59	59	57	59	45	50	38	50	59	59
ADM***	-1	1	-6	-3	-2	4	24	12	5	41	46	43	43	33	23	13	23	33	19
TOKYO, JAPAN																			
0	20	17	18	17	22	30	38	22	17	47	55	60	47	51	38	26	26	26	17
50	43	38	40	40	45	55	63	54	47	70	77	79	75	73	62	52	62	69	58
75	48	44	46	47	52	61	69	62	56	75	82	84	82	78	69	58	71	79	69
85	53	49	50	51	55	65	72	66	60	78	85	87	85	81	72	62	75	83	76
95	61	57	60	61	66	73	79	75	71	84	90	92	92	87	79	69	84	91	86
100	76	72	77	77	77	85	88	88	88	93	99	101	101	96	90	81	96	101	101
ADM***	52	47	48	49	56	63	71	63	56	76	83	86	82	79	69	60	69	75	66
TORONTO, ONTARIO, CANADA																			
0	-22	-26	-25	-26	-16	5	25	-16	-26	28	44	40	28	28	16	-5	-5	-5	-26
50	27	21	23	26	30	42	56	42	33	66	69	68	67	60	48	37	48	57	45
75	34	36	36	36	42	52	62	56	48	72	77	75	77	69	57	47	62	72	63
85	43	39	38	41	48	58	66	62	55	77	81	79	81	71	61	51	67	78	70
95	51	47	46	50	61	70	76	75	71	85	91	88	91	82	70	59	79	90	85
100	61	58	55	61	80	90	93	93	93	97	105	102	105	96	85	70	96	105	105
ADM***	33	30	30	31	37	50	63	50	41	71	74	77	76	69	56	41	56	66	59
TRINIDAD, PORT OF SPAIN																			
0	60	57	57	57	54	60	57	54	54	60	52	60	52	56	61	61	56	52	52
50	78	76	77	77	77	79	80	78	77	79	79	79	79	80	80	79	79	79	78
75	82	81	81	82	81	83	85	84	83	84	85	81	85	85	84	83	85	86	85
85	84	83	84	84	85	86	87	87	86	86	87	85	87	88	86	85	88	88	88
95	89	84	84	89	91	91	92	92	91	90	92	89	92	93	91	89	93	94	93
100	97	96	95	97	99	99	98	99	99	97	97	93	97	101	98	95	101	101	101
ADM***	86	85	86	86	87	88	89	88	87	87	87	87	87	88	88	87	84	87	87

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
TRIPOLI, LIBYA																			
0	55	59	57	55	59	45	45	59	55	50	60	62	50	59	50	42	42	42	55
50	57	54	56	56	65	65	69	66	61	70	78	79	77	78	75	65	72	74	68
75	63	60	62	62	72	72	76	74	69	81	80	85	85	84	79	72	80	83	77
85	66	63	66	66	76	76	81	79	75	85	88	88	89	88	83	75	85	88	83
95	70	71	75	75	85	87	91	90	87	95	97	97	98	97	92	83	96	98	95
100	86	83	91	91	101	105	109	109	109	112	119	112	114	115	106	96	115	119	119
ADM***	69	61	63	63	67	72	76	72	67	81	85	86	89	85	80	73	79	82	74
TUNIS, TUNISIA																			
0	50	50	52	50	54	57	45	54	50	48	50	52	48	52	45	39	39	39	30
50	52	51	55	52	56	61	66	61	56	74	79	80	78	77	68	60	68	75	69
75	56	56	59	58	65	68	75	69	65	81	87	88	86	89	75	66	77	85	75
85	62	59	62	62	67	75	77	74	70	85	92	92	91	87	79	70	82	88	81
95	69	66	70	70	76	84	87	85	82	99	102	102	101	96	88	78	93	100	95
100	81	77	84	84	91	104	104	104	104	109	114	117	118	111	109	90	111	118	118
ADM***	60	58	61	60	65	70	76	70	65	89	90	91	88	87	77	68	77	83	74
USHUAIA, ARGENTINA																			
0	27	24	27	27	27	21	-4	-4	-4	-1	-6	6	-6	17	24	21	17	-6	-6
50	48	49	50	49	47	41	56	41	45	55	52	55	53	59	44	45	42	58	41
75	54	56	56	55	52	44	45	52	57	41	41	41	42	44	49	52	49	48	53
85	57	60	59	59	55	49	49	56	62	44	44	44	46	47	52	55	53	55	58
95	64	69	67	69	62	55	57	64	72	51	49	50	52	52	59	62	61	62	69
100	80	85	79	85	74	65	64	74	85	60	55	57	60	60	70	74	79	74	85
ADM***	56	57	58	57	55	48	45	49	55	59	59	42	40	46	52	54	51	45	49
VANCOUVER, B. C., CANADA																			
0	4	2	6	2	15	27	35	15	2	55	40	59	55	30	21	10	10	10	2
50	59	57	59	58	44	49	55	49	44	61	64	64	63	57	51	44	50	56	50
75	46	44	46	46	51	55	61	58	54	68	70	70	70	64	58	52	60	68	62
85	47	47	49	47	54	59	64	62	59	71	74	73	73	67	61	56	65	72	67
95	56	55	56	55	60	66	72	70	69	79	80	81	81	74	68	65	73	81	78
100	60	59	61	61	69	79	65	85	85	92	91	92	92	85	77	74	85	92	92
ADM***	45	41	44	45	50	50	64	57	50	69	74	73	72	65	57	48	57	64	57
VENICE, ITALY																			
0	24	22	20	20	27	35	44	27	20	48	52	55	48	44	30	28	24	28	20
50	42	36	41	40	44	56	44	56	44	71	75	75	73	70	59	49	59	66	57
75	46	42	46	46	53	62	69	63	56	77	80	79	80	76	65	54	67	75	67
85	49	45	49	48	56	64	72	67	60	79	83	82	82	78	67	56	71	79	71
95	54	50	55	55	61	71	77	74	69	83	84	86	88	83	72	60	76	86	81
100	62	58	65	65	70	80	84	84	84	89	96	93	96	91	77	67	91	96	96
ADM***	46	43	46	45	54	63	71	63	54	79	82	82	81	76	65	54	66	73	63
VIENNA, AUSTRIA																			
0	-4	-8	-14	-14	5	16	27	5	-14	39	45	42	39	31	16	6	6	6	-14
50	34	30	33	32	41	49	58	49	41	64	67	66	65	59	50	40	50	57	49
75	43	39	44	43	50	57	69	61	54	71	73	72	73	66	56	49	60	70	64
85	47	43	46	48	54	61	70	66	61	74	77	76	76	70	62	52	65	75	70
95	55	51	57	56	62	70	79	77	74	83	85	84	85	77	70	60	75	85	82
100	66	62	67	67	74	83	92	92	92	97	98	97	98	88	82	71	88	96	98
ADM***	37	35	36	36	47	57	66	57	46	71	75	73	73	66	55	44	55	64	55
WADI HALFA, SUDAN																			
0	28	32	34	28	37	45	55	37	28	56	63	57	56	56	42	39	39	39	28
50	64	61	64	63	71	80	87	79	71	90	90	90	90	87	83	73	81	85	76
75	73	69	72	72	81	90	96	91	83	98	97	96	96	94	92	82	91	96	91
85	74	73	77	77	84	93	100	96	89	102	101	102	102	98	97	87	95	101	97
95	87	93	88	88	97	107	108	106	104	110	108	108	110	106	105	98	105	109	109
100	102	99	106	106	114	127	120	127	127	120	120	116	120	118	117	115	118	120	127
ADM***	74	75	79	77	88	98	104	97	87	104	106	105	104	101	96	87	95	100	94
WAKE ISLAND, PACIFIC OCEAN																			
0	55	54	52	52	55	59	60	55	52	65	61	65	65	65	65	59	59	59	52
50	74	73	72	73	72	73	75	73	73	77	78	79	78	76	77	75	77	77	75
75	78	77	76	77	76	77	79	79	78	80	81	82	81	81	81	79	81	81	80
85	79	76	76	79	76	78	80	80	80	81	82	83	82	83	82	80	83	83	82
95	82	81	81	82	81	81	85	85	85	84	85	86	85	85	85	85	86	86	86
100	85	84	84	85	84	84	87	87	87	88	88	88	88	88	90	86	90	90	90
ADM***	78	76	76	77	77	78	80	78	77	81	82	83	82	83	82	80	82	82	83
WARSAW, POLAND																			
0	-5	-22	-8	-22	-4	24	30	-4	-22	37	44	41	37	32	17	1	1	1	-22
50	29	24	26	27	35	46	54	46	37	63	66	64	64	57	48	36	47	55	46
75	36	36	36	38	44	52	63	50	51	69	72	71	72	63	55	44	50	64	62
85	39	39	39	42	49	56	69	64	58	72	75	75	75	67	59	47	63	74	69
95	45	45	46	48	57	63	78	76	72	79	83	83	84	75	68	55	75	84	81
100	51	50	54	54	69	75	93	93	93	90	95	96	98	86	77	60	88	98	98
ADM***	32	30	32	31	41	54	67	54	43	72	75	73	73	65	54	40	55	63	55
WASHINGTON, D.C., U. S. A.																			
0	-15	-14	-15	-15	4	15	35	4	-15	43	52	49	43	36	26	11	11	11	-15
50	38	37	38	37	46	55	65	55	46	74	76	76	76	70	56	48	59	67	57
75	50	49	51	50	57	65	75	66	61	82	85	83	84	79	67	58	71	80	73
85	55	54	56	56	62	70	77	73	66	85	88	86	88	83	72	62	76	85	80
95	63	65	66	68	74	80	85	85	80	92	95	94	95	91	81	72	88	95	92
100	74	80	84	84	93	95	97	97	97	102	106	106	106	104	96	87	109	106	106
ADM***	46	44	46	45	55	65	76	65	55	84	87	85	85	79	68	57	68	77	66
WELLINGTON, NEW ZEALAND																			
0	38	39	41	38	39	36	32	32	32	30	29	29	29	31	39	36	31	29	29
50	61	63	63	62	61	57	55	57	59	50	48	49	49	52	59	57	54	51	55
75	66	68	68	68	66	62	58	63	66	55	52	53	54	57	59	62	60	58	63
85	69	71	71	71	68	64	60	66	70	57	54	55	56	59	62	65	63	61	66
95	75	77	78	78	79	68	64	72	77	62	59	60	61	63	67	71	70	69	75
100	83	85	88	88	81	79	71	81	88	69	66	66	69	69	75	81	81	81	88
ADM***	67	69	69	68	67	63	58	63	65	55	53	54	54	57	60	63	60	57	61

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
WEST END, BAHAMAS																			
0	45	41	45	41	46	55	53	46	41	62	67	67	62	65	54	49	49	49	41
50	75	75	71	72	75	75	78	75	74	71	82	83	78	82	79	76	79	78	76
75	79	80	77	79	78	80	83	82	81	74	85	86	82	85	84	81	85	85	84
85	81	82	79	81	81	82	85	84	83	76	87	88	84	87	86	83	87	87	86
95	84	84	82	84	84	86	88	88	88	83	90	90	88	89	89	86	90	91	90
100	86	85	86	86	88	91	92	92	92	94	94	94	94	92	92	89	92	94	94
ADM***	79	77	77	78	79	81	84	81	79	87	88	89	88	88	85	81	85	86	83
WEST PALM BEACH, FLA., USA																			
0	51	51	14	51	57	45	53	57	51	64	68	65	64	65	51	56	56	56	51
50	69	67	68	68	70	74	77	74	71	81	82	82	82	81	78	72	77	79	75
75	77	75	75	76	78	81	83	82	80	85	86	86	86	85	84	80	86	89	85
85	80	78	78	79	81	83	85	85	83	87	88	88	89	87	86	82	88	92	88
95	85	83	84	84	86	89	90	90	89	91	93	92	93	91	90	87	93	97	95
100	90	89	90	90	92	96	96	96	96	98	101	97	101	96	95	91	96	101	101
ADM***	77	75	77	76	79	81	86	82	79	89	90	90	90	88	85	80	84	87	83
WHITEHORSE, CANADA																			
0	-54	-62	-59	-62	-38	-14	19	-36	-62	30	32	24	24	15	-4	-41	-41	-41	-62
50	4	5	7	5	22	32	46	33	19	55	66	54	58	40	35	15	32	45	32
75	17	20	22	21	34	42	53	49	19	62	74	61	67	54	44	27	40	64	53
85	23	26	28	27	39	45	58	54	47	65	77	65	71	58	46	37	55	70	61
95	33	36	38	37	46	52	64	69	66	74	85	72	73	[illegible]	56	41	66	81	75
100	47	47	50	50	54	59	80	80	86	89	91	84	91	80	66	51	80	91	91
ADM***	11	13	16	13	31	41	37	43	28	66	67	64	66	55	41	21	39	52	40
WINDHOEK, SO. W. AFRICA																			
0	58	67	64	58	39	36	29	29	29	27	27	25	25	31	35	35	31	25	25
50	74	74	72	73	70	66	60	65	69	56	56	60	57	65	72	72	69	63	66
75	82	80	79	81	77	73	68	74	74	63	62	68	65	73	80	80	76	73	76
85	85	83	81	85	80	76	71	78	82	66	65	71	69	76	83	84	82	77	80
95	91	89	87	90	86	81	79	85	89	72	70	77	75	83	84	89	88	85	87
100	97	97	96	97	94	87	89	96	97	79	77	85	85	91	93	96	96	96	97
ADM***	88	85	83	85	80	77	72	76	80	68	68	73	70	77	86	86	82	76	78
WINNIPEG, MANITOBA, CANADA																			
0	-54	-48	-47	-54	-18	-18	11	-18	-54	21	35	10	21	17	-5	-34	-34	-34	-54
50	6	-1	2	2	16	38	52	35	18	62	67	64	64	54	41	22	39	51	35
75	20	9	14	15	30	52	63	53	34	72	78	73	75	66	55	35	57	71	57
85	28	15	19	22	37	58	69	61	47	77	81	77	81	69	58	41	64	79	66
95	38	27	31	35	52	71	81	77	64	87	91	87	92	81	69	56	79	92	86
100	55	46	47	55	74	90	100	100	100	101	108	105	108	99	86	71	99	108	108
ADM***	15	7	12	11	27	48	65	67	29	74	79	76	74	65	51	30	49	62	48
YELLOWKNIFE, N.W.T., CANADA																			
0	-55	-60	-60	-60	-65	-33	6	-65	-60	28	33	36	28	14	-8	-36	-36	-36	-60
50	-16	-18	-15	-18	-1	18	40	19	2	55	61	58	57	46	31	7	28	42	22
75	-7	-7	-6	-6	10	30	49	35	19	59	67	56	66	55	41	17	45	59	42
85	3	-3	0	7	15	35	56	62	28	62	71	67	68	57	45	22	60	65	50
95	16	7	9	16	25	45	66	57	48	70	77	[illegible]	75	65	55	31	72	76	65
100	32	22	21	32	38	58	79	79	79	81	88	86	86	79	65	46	79	88	88
ADM***	-8	-10	-8	-7	10	29	44	26	11	61	69	65	65	52	36	14	34	50	30
ZAGREB, YUGOSLAVIA																			
0	1	1	-4	-4	22	31	36	22	-4	47	55	49	47	38	26	16	16	16	-4
50	38	31	38	35	46	55	61	55	46	67	71	70	69	61	55	45	52	61	52
75	48	38	45	46	52	58	67	61	56	72	75	75	75	67	60	49	61	71	68
85	49	42	49	48	58	61	70	65	61	75	78	78	78	70	65	52	68	75	71
95	55	50	57	58	65	68	77	76	71	81	86	86	86	77	69	59	76	86	81
100	61	65	66	68	76	78	88	80	80	91	96	95	96	87	77	69	87	96	96
ADM***	42	38	47	40	55	61	70	61	51	78	80	79	78	69	60	49	59	69	60
ZURICH, SWITZERLAND																			
0	-6	-11	-11	-11	8	22	27	6	-11	37	41	38	37	30	22	13	13	13	-11
50	36	34	38	35	43	50	58	50	42	64	67	67	60	41	51	42	51	58	50
75	44	44	47	45	52	58	66	61	58	71	76	76	76	69	59	49	61	70	65
85	47	44	51	49	58	62	73	68	62	75	78	78	78	73	63	52	66	75	72
95	55	58	58	57	63	72	78	77	76	85	91	88	87	81	71	60	76	88	85
100	65	60	67	67	75	87	92	92	97	101	107	107	102	95	85	71	85	102	102
ADM***	39	39	43	40	52	40	48	40	50	74	74	77	76	70	59	47	59	67	59

*1 QT--FIRST QUARTER DEC-JAN-FEB
**1HF --FIRST HALF YEAR DEC---MAY
***ADM---AVERAGE DAILY MAXIMUM

TABLE 7

LIST OF AIRPORTS WITH GEOGRAPHICAL COORDINATES, ELEVATION, AND LENGTH OF LONGEST RUNWAY

AIRPORTS

TABLE 7. AIRPORTS

CITY - COUNTRY	AERODROME	CODE	LAT. ° '	LONG. ° '	ELEV. ft.	RUNWAY ft.
Accra, Ghana	Accra	ACC	5.36N	0.10W	221	9600
Addis Ababa, Ethiopia	Haile Selassie	ADD	9.00N	38.44E	7743	5670
Adelaide, Australia	Adelaide	ADL	34.57S	138.32E	12	6850
Aden, Aden-Prot	Khormaksar	ADE	12.50N	45.02E	10	8386
Algiers, Algeria	Maison Blanche	ALG	36.42N	3.13E	82	7972
Alice Springs, Australia		ASP	23.48S	133.53S		
Allahabad, India	Allahabad		25.26N	81.44E	319	6000
Amman, Jordan	Amman	AMM	31.58N	35.59E	2550	8000
Amsterdam, Netherlands	Schiphol	AMS	52.19N	4.47E	13	10663
Anchorage, Alaska	Anchorage International	ANC	61.10N	150.00W	124	10600
Ankara, Turkey	Esenboga	ANK	40.08N	33.00E	3122	12310
Antigua Island, B. W. I.	Coolidge	ANU	17.09N	61.47W	62	6900
Aruba, N. W. I.		AUA	12.30N	70.01W		
Asuncion, Paraguay	Presidente Stroessnor	ASU	25.15S	57.31W	330	9000
Athens, Greece	Athens Central	ATH	37.54N	23.44E	90	8333
Atlanta, Ga., U.S.A.	Atlanta Municipal	ATL	33.39N	84.26W	1024	7800
Auckland, New Zealand	Whenuapai	AKL	36.47S	174.38E	100	6590
Baghdad, Iraq	Baghdad West	BGW	33.19N	44.22E	112	7054
Bahrein I., Persian Gulf	Bahrein/Muharraq	BAH	26.16N	50.38E	6	7500
Baltimore, Md., U.S.A.	Friendship Int'l	BAL	39.10N	76.40W	146	3400
Bangalore, India		BLR	12.57N	77.40E	2937	6900
Bangkok, Thailand	Don Muang	BKK	13.54N	100.36E	12	9840
Barbados, B. W. I.	Barbadoes/Seawell	BGI	13.04N	59.29W	165	9000
Barcelona, Spain	Barcelona	BCN	41.18N	2.04E	13	8415
Barranquilla, Colombia	Soledad	BAQ	10.54N	74.47W	47	5200
Basle, Switzerland	Mulhouse	BSL	47.35N	7.32E	886	7775
Basrah, Iraq	Margil	BSR	30.34N	47.47E	8	6000
Beirut, Lebanon	Beirut Int'l	BEY	33.50N	35.29E	85	10663
Belem, Brazil	Val de Cans	BEL	1.23S	48.28W	46	6000
Belfast, N. Ireland	Nutts Corner	BFS	54.38N	6.09W	359	6014
Belgrade, Yugoslavia	Zemun	BEG	44.49N	20.24E	243	5249
Belize, British Honduras	Stanley	BZE	17.32N	88.18W	16	5000
Bengasi, Libya	Benina	BEN	32.06N	20.16E	425	6600
Bergen, Norway	Flesland	BGO	60.18N	5.13E	165	8038
Berlin, Germany	Tempelhof Air Base	BER	52.28N	13.24E	163	5267
Bermuda, Bermuda	Kindley AFB	BDA	32.21N	64.41W	11	9710
Biak, Australia		BIK	1.12S	136.07E	37	11700
Bimini, Bahamas		BIM	25.42N	79.17W		
Bled, Yugoslavia	Lesce	BLY	46.22N	14.11E	1654	4900
Bloem Fontein, Africa	Tempe	BFN	29.06S	26.11E	4680	10000
Bogota, Colombia	El Dorado	BOG	4.42N	74.09W	8355	12500
Bombay, India	Santa Cruz	BOM	19.05N	72.52E	35	10500
Bordeaux, France	Merignac	BOD	44.50N	0.43W	161	7874
Boston, Mass., U.S.A.	Logan Int'l	BOS	42.22N	71.00W	19	10023
Brasilia, Brazil	Brasilia	BSB	15.51S	47.56W	3474	10500
Brisbane, Australia	Brisbane	BNE	27.25S	153.05E	7	7760
Brownsville, Tex., U.S.A.	Harlingen AFB	HRL	26.13N	97.39W	35	6000
Brussels, Belgium	Brussels National	BRU	50.54N	4.29E	180	11936

CITY - COUNTRY	AERODROME	CODE	LAT. ° '	LONG. ° '	ELEV. ft.	RUNWAY ft.
Bucharest, Romania	Baneasa	BUH	44.30N	26.05E	297	7218
Budapest, Hungary	Ferlhegy	BUD	47.26N	19.14E	430	8200
Buenos Aires, Argentina	Ezeiza	BUE	34.48S	58.38W	64	10800
Butterworth, Fed. of Malaya	Butterworth	BWH	5.88N	100.24E	10	8000
Cairo, Egypt	Cairo International	CAI	30.08N	31.24E	311	10827
Calcutta, India	Dum Dum	CCU	22.38N	88.38N	18	7700
Calgary, Alberta, Canada	Calgary	YYC	51.06N	114.01W	3557	8700
Campeche, Mexico		CPE	19.50N	90.31W		
Cananea, Mexico		CNA	30.59N	110.16W		5200
Canton Island, Phoenix Is.	Canton	CAN	2.46S	171.43W	9	6000
Capetown, U. So. Africa	D. F. Malan	CPT	33.58S	18.36E	151	6900
Caracas, Venezuela	Maiquetia	CCS	10.37N	66.59W	230	9800
Cartagena, Colombia		CTG	10.28N	75.31W		
Carupano, Venezuela		CUP	10.39N	63.14W		
Casablanca, Morocco	Cazes	CAS	33.33N	7.40W	203	6004
Cherokee Sound, Bahamas			26.17N	77.04W		
Chicago, Illinois, U.S.A.	O'Hare Chicago Int'l	ORD	41.59N	87.54W	667	11600
Chitose, Japan	Chitose AB		42.48N	141.40E	82	9000
Chittagong, Pakistan		CGP	22.16N	91.49E	12	6000
Christchurch, New Zealand	Christchurch	CHC	43.29S	172.32E	113	6600
Chung King, China		CKG	29.32N	106.35E		
Churchill, Manitoba, Canada	Churchill	YYQ	58.45N	94.04W	100	11200
Ciudad Del Carmen, Mexico		CME	18.39N	91.49W		
Cleveland, Ohio, U.S.A.	Cleveland-Hopkins	CLE	41.25N	81.51W	789	9000
Cocos Island, Indian Ocean	Cocos Island	CCK	12.11S	96.50E	11	8000
Cold Bay, Alaska	Cold Bay	CDB	55.13N	162.44W	94	7300
Cologne, West Germany	Koln-Bonn	CGN	50.52N	7.09E	300	12467
Colombo, Ceylon	Ratmalana	CMB	6.49N	79.53E	22	6000
Conakry, Fr. W. Africa	Conakry	CKY	9.34N	13.37W	85	5577
Copenhagen, Denmark	Kastrup	CPH	55.37N	12.39E	16	10827
Cordoba, Argentina	Cordoba	COR	31.19S	64.13W	1588	10500
Curacao, N. W. I.		CUR	12.12N	68.58W		
Cumana, Venezuela		CUM	10.39N	64.11W		
Curitiba, Brazil	Afonso Pena	CWB	25.31S	49.11W	2986	5905
Dacca, Pakistan	Tezgaon	DAC	23.46N	90.23E	24	7500
Dakar, Senegal	Yof	DKR	14.44N	17.29W	89	7907
Dallas, Texas, U.S.A.	Love Field	DAL	32.51N	96.51W	485	7750
Damascus, Syria, U.R.A.	Damascus Int'l	DAM	33.29N	36.14E	2405	8235
Darwin, Australia	Darwin	DRW	12.25S	130.52E	86	9570
Denver, Colorado, U.S.A.	Stapleton Airfield	DEN	39.46N	104.53W	5331	10010
Detroit, Mich., U.S.A.	Detroit Metropolitan	YIP	42.14N	83.21W	639	10500
Dhahran, Saudi Arabia	Dhahran	DHA	26.17N	50.10E	78	10100
Djakarta, Indonesia	Kemajoran	JKT	6.09S	106.51E	16	8120
Doha Qatar, Saudi Arabia		DOH	25.16N	51.34E	33	6300

CITY-COUNTRY	AERODROME	CODE	LAT. ° '	LONG. ° '	ELEV. ft.	RUNWAY ft.
Dubrovnik, Yugoslavia	Gruda	DBV	42.33N	18.17E		
Durban, U. of So. Africa	Louis Botha	DUR	29.58S	30.57E	25	6800
Dusseldorf, W. Germany	Dusseldorf	DUS	51.17N	6.45E	133	8382
East London, U. So. Africa	Collondale	ELS	33.03S	27.49E	425	6350
Edmonton, Alberta, Canada	Edmonton Municipal	YXD	53.34N	113.31W	2200	5868
El Adem, Tobruk, Libya	El Adem	ELE	31.52N	23.55E	510	6546
El Paso, Texas, U.S.A.	El Paso Int'l	ELP	31.48N	106.23W	3939	11000
Entebbe, Uganda	Entebbe	EBB	.03N	32.27E	3789	8957
Fortaleza, Brazil		FOR	3.47S	38.32W		
Ft. de France, Martinque		FDF	14.36N	61.05W		
Ft. Lauderdale, Fla., U.S.A.	Broward Co. Int'l	FLL	26.04N	80.10W	10	6500
Frankfurt, West Germany	Rhein/Main	FRA	50.02N	8.34E	368	12795
Freetown, Sierre Leone	Freetown-Lungi	FNA	8.37N	13.12W	82	6500
Frobisher Bay, N.W.T., Canada	Frobisher	YFB	63.45N	68.33W	110	9000
Fukuoka, Japan	Itazuke AB	FUK	33.35N	130.27E	30	10000
Gander, Canada	Gander	YQX	48.57N	54.34W	496	8200
Gaya, India	Gaya		24.44N	84.56E	362	6000
Geneva, Switzerland	Cointrin	GVA	46.14N	6.06E	1411	12795
Georgetown, Br. Guiana	Atkinson	GEO	6.30N	58.15W	95	7430
Gibraltar, Gibraltar	Gibraltar	GIB	36.09N	5.21W	15	6000
Glasgow, Scotland	Renfrew	GLA	55.51N	4.16W	35	5789
Goose Bay, Nfld, Canada	Goose	YYR	53.19N	60.25W	150	11000
Grand Cayman, B.W.I.		GCM	19.17N	81.22W		
Grenada, B.W.I.	Pearls	GND	12.09N	61.36W	30	5300
Guam, S. W. Pacific	Agana NAS	GUM	13.29N	144.47E	280	10000
Guatemala City, Guatemala	La Aurora	GUA	14.34N	90.32W	4958	9800
Guayaquil, Equador	Simon Bolivar	GYE	2.10S	79.52W	13	8000
Hamburg, Germany	Hamburg	HAM	53.38N	9.59E	42	10006
Havana, Cuba	Jose Marti Int'l	HAV	23.01N	82.24W	210	10500
Helsinki, Finland	Helsinki	HEL	60.19N	24.58E	167	6562
Hong Kong, Hong Kong	Hong Kong Int'l	HKG	22.20N	114.12E	15	8350
Honolulu, Hawaii, U.S.A.	Honolulu Int'l	HNL	21.20N	157.56W	13	12300
Houston, Texas, U.S.A.	Houston Int'l	HOU	29.39N	95.16W	50	7600
Hyderabad, India		HYD	17.33	78.30E	2020	6900
Istanbul, Turkey	Yesilkoy	IST	40.58N	28.49E	88	7548
Jidda, Saudi Arabia		JED	21.30N	39.12E		
Johannesburg, U. S. Africa	Jan Smuts	JNB	26.08S	28.15E	5559	14500
Johnston Island, Pacific Ocean	Johnston Island AFB	JON	16.44N	169.31W	7	5900

CITY-COUNTRY	AERODROME	CODE	LAT. ° '	LONG. ° '	ELEV. ft.	RUNWAY ft.
Kano, Nigeria	Kano	KAN	12.03N	8.31E	1563	8610
Kansas City, Mo., U.S.A.	Kansas City	MKC	39.07N	94.36W	758	7000
Karachi, Pakistan	Karachi	KHI	24.54N	67.09E	75	10500
Keflavik, Iceland	Keflavik	KEF	63.59N	22.36W	169	10000
Ketchikan, Alaska, U.S.A.	Annette Island	KTN	55.02N	131.34W	119	7500
Khartoum, Sudan	Khartoum Civil	KRT	15.36N	32.34E	1253	7050
Kimberley, U. So. Africa	Kimberley	KIM	28.48S	24.46E	3950	7900
Kingston, Jamaica	Palisadoes	KIN	17.56N	76.47W	10	7600
Kisumu, Kenya	Kisumu	KIS	.05S	34.44E	3795	5950
Kodiak, Alaska, U.S.A.	NS Kodiak	NHB	57.45N	152.30W	77	7500
Kuala Lumpur, Malaya		KUL	3.07N	101.42E	111	6200
Kuwait, Kuwait		KWI	29.21N	48.00E	57	5400
Kwajalein, Marshall Is.	Kwajalein NAS	KWA	8.43N	167.44E	7	6750
Lagos, Nigeria	Lagos	LOS	6.35N	3.20E	132	7595
Lahore, Pakistan	Walton	LHE	31.32N	74.24E	700	6300
Lajes, Azores	Lajes	LJZ	38.45N	27.06W	180	10800
Las Palmas, Canary Is.	Las Palmas	LPA	27.56N	15.23W	46	5791
Las Piedras, Venezuela		LSP	11.44N	70.12W		
La Paz, Bolivia	El Alto	LPB	16.30S	68.11W	13398	11100
Leningrad, U.S.S.R.	Leningrad	LED	59.57N	30.18E		
Leopoldville, Belgian Congo	Leopoldville/N'Dolo	LEO	4.19S	15.19E	51	6560
	Leopoldville/N'Djili		4.23S	15.26E	1014	15420
Libreville, Fr. Africa	Libreville	LBV	.27N	9.25E	39	5741
Lima, Peru	Limatamho	LIM	12.06S	77.01W	483	5900
Lisbon, Portugal	Lisbon	LIS	38.46N	9.08W	361	7874
Livingstone, N. Rhodesia	Livingstone	LVI	17.49S	25.49E	3230	7500
Ljubljana, Yugoslavia	Ljubljana	LJU	46.04N	14.34E	951	3600
London, England	Heathrow	LON	51.28N	.27W	80	11000
Los Angeles, Calif., U.S.A.	Los Angeles Int'l	LAX	33.56N	118.24W	126	12000
Lourenco Marques, Mozambique	Mavalano	LUM	25.55S	32.34E	128	7380
Luanda, Angola	Presidente Craveiro Lopez	LAD	8.51S	13.14E	243	7382
Lusaka, N. Rhodesia	Lusaka	LUN	15.25S	28.20E	4208	6660
Madras, India	Madras (St. Thomas Mt.)	MAA	12.59N	80.10E	48	6000
Madrid, Spain	Barajas	MAD	40.28N	3.34W	1985	10006
Makassar, Indonesia		MSR	5.04S	119.33E	46	5100
Malta, Malta	Luqa	MLA	35.51N	14.29E	297	7800
Managua, Nicaragua		MGA	12.07N	86.11W		
Manaos, Brazil	Ponta Pelada	MAO	3.09S	59.59W	272	6500
Mangalore, India			12.59N	74.54E	344	4000
Manila, Phillipines	Manila Int'l	MNL	14.31N	121.01E	67	7900
Maracaibo, Venezuela		MAR	10.40N	71.39W		
Marseilles, France	Marignane	MRS	43.25N	5.13E	66	8858
Mauritius, Ind. Ocean	Makebourg-Plaisance	MRU	20.26S	57.41E	165	6958
Mazatlan, Mexico		MZT	23.14N	106.25W		
Medan, Indonesia	Polonia	MES	3.34N	98.41E	82	5500

CITY - COUNTRY	AERODROME	CODE	LAT. ° '	LONG. ° '	ELEV. ft.	RUNWAY ft.
Melbourne, Australia	Melbourne	MEB	37.44S	144.54E	260	6100
Menado, Indonesia		MDC	1.32N	124.55E	264	4921
Mendoza, Argentina	El Piumerilio	MDZ	32.50S	68.47N	2313	8400
Merida, Mexico		MID	20.56N	89.41W		
Mexico City, Mexico	Central	MEX	19.26N	99.05W	7340	11700
Miami, Florida, U.S.A.	Miami Int'l	MIA	25.48N	80.17W	9	10500
Midway, Pacific Ocean	Sand Field	MDY	28.12N	177.23W	13	7900
Milan, Italy	Malpensa	MIL	45.38N	8.43E	767	12844
Minneapolis, Minn., U.S.A.	Minneapolis/St. Paul International	MSP	44.53N	93.13W	840	8200
Monrovia, Liberia	Robertsfield	MLW	6.15N	10.21W	24	6988
Montego Bay, Jamaica	Montego Bay	MJB	18.30N	77.55W	3	7100
Monterrey, Mexico		MTY	25.52N	100.14W		
Montevideo, Uruguay	Carrasco	CSO	34.50S	56.02W	86	7100
Montreal, Quebec, Canada	Montreal Int'l	YUL	45.28N	73.45W	117	9600
Moscow, U.S.S.R.	Sheremetievo	MOW	55.58N	37.25E	623	11100
Mount Isa, Australia		ISA	20.40S	139.28E		
Mukden, Manchuria		MUK	41.45N	123.29E		
Munich, W. Germany	Munich	MUC	48.08N	11.42E	1732	8530
Nagoya, Japan	Kamaki AFB	NGO	35.15N	136.55E	51	9000
Nagpur, India		NAG	21.05N	79.03E	1012	6400
Nairobi, Kenya	Nairobi	NBO	1.19S	36.56E	5327	10000
Nandi, Fiji Islands	Nandi	NAN	17.45S	177.27E	63	10500
Nanking, China		NKG	32.07N	118.47E		
Naples, Italy	Capodichino	NAP	40.53N	14.17E	289	7218
Nassau, Bahamas, B.W.I.	Nassau Int'l	NAS	25.03N	77.28W	10	8300
Natal, Brazil	Parnamirim	NAT	5.55S	35.15W	161	7400
New Delhi, India	Palam	NDH	28.34N	77.07E	761	7500
New Orleans, La., U.S.A.	Moisant Int'l	MSY	29.50N	90.01W	3	8000
New York, N. Y., U.S.A.	New York Int'l (Idlewild)	IDL	40.38N	73.47W	12	14600
Nicosia, Cyprus	Nicosia	NCY	35.09N	33.16E	734	8000
Nogales, Mexico			31.13N	110.59W		
Nome, Alaska, U.S.A.	Nome (FAA)	OME	64.31N	165.26W	37	5400
Noumea, N. Caledonia		NOU	22.16S	166.26E		
Okinawa, Ryuyku Is.	Kadena AB	OKA	26.21N	127.46E	142	12100
Osaka, Japan	Osaka Int'l	OSA	34.47N	135.26E	50	6000
Oslo, Norway	Fornebu	OSL	59.54N	10.38E	56	5741
Ottawa, Ontario, Canada	Ottawa	YOW	45.19N	75.40W	374	8800
Padang, Indonesia		PDG	0.53S	100.21E	19	4900
Panama, Panama	Tocumen National	PTY	9.05N	79.23W	135	8800
Paris, France	Le Bourget	PAR	48.58N	2.27E	217	9842
Peiping, China		PEP	39.36N	116.24E		
Perth, Australia	Perth	PER	31.56S	115.58E	51	6920
Peshawar, Pakistan		PEW	34.00N	71.31E	1150	9000

CITY - COUNTRY	AERODROME	CODE	LAT. ° '	LONG. ° '	ELEV. ft.	RUNWAY ft.
Philadelphia, Pa., U.S.A.	Philadelphia Int'l	PHL	39.53N	75.14W	14	9500
Phoenix, Ariz., U.S.A.	Phoenix-Muni.	PHX	33.26N	112.01W	1122	8800
Pietersburg, U. So. Africa	Pietersburg		23.51S	29.27E	4074	8823
Pisa, Italy	San Giusto	PSA	43.41N	10.24E	8	8500
Pittsburg, Pa., U.S.A.	Allegheny County	PIT	40.21N	79.56W	1252	5500
Pointe a Pitre, Guadaloupe		PTP	16.16N	61.32W		
Porlamar, Venezuela		PMU	11.01N	63.54W		
Port au Prince, Haiti		PAP	18.34N	72.20W		
Port Elizabeth, U. of So. Africa	Port Elizabeth	PLZ	33.59S	25.37E	227	6500
Port Harcourt, Nigeria	Port Harcourt	PHC	4.51N	7.01E	58	6000
Port Moresby, N. Guinea		POM	9.30S	147.07E		
Porto Alegre, Brazil	Salgado Filho	POA	30.00S	51.11W	10	6600
Port of Spain, Trinidad	Piarco Field	POS	10.36N	61.21W	44	9500
Prague, Czechoslovakia	Ruzyne	PRG	50.06N	14.17E	1247	7546
Prestwick, Scotland	Prestwick	PIK	55.30N	4.35W	64	9800
Puerto Barrios, Guatemala		PBR	15.44N	88.35W		
Puerto Cabello, Venezuela		PBL	10.29N	68.04W		
Quito, Ecuador	Mariscal Sucre	UIO	.08S	78.29W	9218	10200
Rangoon, Burma	Mingaladan	RGN	16.54N	96.08E	109	8100
Rawalpindi, Pakistan		RWP	33.37N	73.06E	1662	6600
Recife, Brazil	Guararapes	REC	8.08S	34.55W	33	7800
Resolute Bay, N.W. Terr.	Resolute	JRE	74.43N	94.59W	220	6500
Reykjavik, Iceland	Reykjavik	REK	64.08N	21.57W	45	4700
Rimini, Italy	Rimini		44.01N	12.37E	39	9810
Rio de Janeiro, Brazil	Galeao	RIO	22.49S	43.15W	10	10800
Riyadh, Saudi Arabia			24.43N	46.42E	1818	6000
Rome, Italy	Ciampino	ROM	41.48N	12.36E	423	7218
Saigon, Viet-Nam	Tan San Nhut	SGN	10.49N	106.39E	33	7900
St. Croix, Virgin Is.		STX	17.42N	64.48W		
St. Kitts I., Leeward Is., B.W.I.		SKB	17.25N	62.45W		
St. Louis, Mo., U.S.A.	Lambert-St. Louis	STL	38.45N	90.22W	571	10000
St. Lucia, B.W.I.		SLU	13.45N	60.57W		
St. Maarten, N.W.I.		SXM	18.03N	63.07W		
St. Thomas, Virgin Is.		STT	18.20N	64.58W		
St. Vincent, Windward Is.		SVD	13.15N	61.12W		
Sal Island, Cape Verde Is.	Sal	SID	16.44N	22.57W	184	7054
Salisbury, S. Rhod.		SAY	17.56S	31.06E	4904	8612
San Antonio, Tex., U.S.A.	San Antonio Int'l	SAT	29.32N	98.28W	800	8500
San Diego, Calif., U.S.A.	Lindbergh Field	SAN	32.44N	117.11W	15	8100
Sandy Point, St. Kitts I.,			17.22N	62.51W		
San Francisco, Calif., USA	San Francisco Int'l	SFO	37.38N	122.23W	10	9500
San Jose, Guatemala		OCO	13.57N	90.51W		

CITY - COUNTRY	AERODROME	CODE	LAT. ° '	LONG. ° '	ELEV. ft.	RUNWAY ft.
San Juan, Puerto Rico	Puerto Rico Int'l	SJU	18.26N	66.00W	9	10000
San Pedro Sula, Honduras		SAP	15.26N	88.01W		
San Salvador, Bahama Is.		SAL	24.04N	74.31W		
Santa Maria, Azores	Santa Maria	SMA	36.58N	25.10W	305	10000
Santa Marta, Colombia		SMR	11.18N	74.10W		
Santiago, Chile	Los Cerrillos	SCL	33.30S	70.42W	1675	8500
Santo Domingo, Dom. Rep.	Punta Caucedo Int'l		18.25N	69.40W	57	8300
Sao Paulo, Brazil	Congonhas	SAO	23.37S	46.39W	2628	6200
Sao Tome, Sao Tome Is.		TMS	.19N	6.43E	16	
Sarajevo, Yugoslavia	Butmir	SJJ	43.49N	18.21E	1693	3900
Seattle, Washington, USA	Seattle-Tacoma Int'l	SEA	47.27N	122.19W	428	9800
Seoul, Korea	Kimpo AFB	SEL	37.34N	126.48E	64	8100
Seville, Spain	Moron AB	SVQ	37.10N	5.37E	287	11800
Shanghai, China		SHA	31.15N	121.29E		
Shannon, Limerick, Ireland	Shannon	SNN	52.42N	8.55W	47	10000
Sharjah, Oman		SHJ	25.21N	55.24E	6	6900
Shemya Is., Alaska, USA	Shemya	SYA	52.43N	174.06E	95	10000
Singapore, Str. Settlements	Paya Lebar	SIN	1.22N	103.59E	10	6000
Skopje, Yugoslavia		SKP	41.59N	21.28E	783	39
Soerabaya, Indonesia	Tanjong Perok		7.13S	112.43E	10	5300
Sofia, Bulgaria	Sofia	SOF	42.42N	23.24E	1830	6000
Sondrestromfjord, Greenland	Sondrestrom AB	SFJ	67.01N	50.42W	160	9200
Split, Yugoslavia	Sinj	SPU	43.42N	16.40E		
Stanleyville, Belgian Congo	Stanleyville	SYV	.31N	25.10E	1362	7087
Stockholm, Sweden	Arlanda	STO	59.39N	17.55E	112	10827
Sydney, Australia	Kingsford Smith	SYD	33.56S	151.11E	10	8290
Tahiti, Society Is.	Tahiti (FAAA)	PPT	17.33S	149.37W	7	11200
Taipei, Formosa	Taipei Int'l	TPE	25.04N	121.32E	19	8500
Tampa, Florida, U.S.A.	Tampa Int'l	TPA	27.58N	82.32W	27	8300
Tananarive, Madagascar	Arivonimamo	TNR	19.02S	47.10E	4757	8222
Tarkan, Borneo		TRK	3.20N	117.34E		
Tegucigalpa, Honduras		TGU	14.03N	87.14W		
Teheran, Iran	Mehrabad	THR	35.41N	51.19E	3960	9840
Tel Aviv-Jaffa, Israel	Lod	TLV	32.00N	34.54E	131	10000
Thule, Greenland	Thule AB	THU	76.32N	68.45W	251	10000
Tokyo, Japan	Tokyo Int'l	TYO	35.33N	139.46E	11	8400
Toronto, Ontario, Canada	Malton	YYZ	43.41N	79.38W	569	11000
Townsville, Australia		TSV	19.15S	146.46E		
Trinidad, Port of Spain	Piarco	TND	10.36N	61.21W	44	9500
Tripoli, Libya	Idris El Awal	TIP	32.40N	13.09E	263	7306
Tunis, Tunisia	El Aouina	TUN	36.51N	10.14E	16	8620
Ushuaia, Argentina		USH	54.49S	68.19W	10	
Vancouver, B.C., Canada	Vancouver Int'l	YUR	49.11N	123.10W	9	8600
Venice, Italy	Tessera	VCE	45.30N	12.20E	7	8875
Vienna, Austria	Schwechat	VIE	48.07N	16.34E	600	9840

CITY - COUNTRY	AERODROME	CODE	LAT. ° '	LONG. ° '	ELEV. ft.	RUNWAY ft.
Wadi Halfa, Sudan	Wadi Halfa	WHA	21.50N	31.18E	509	6003
Wake Island, Pacific Ocean	Naval Air Station	AWK	19.17N	166.39E	13	9800
Warsaw, Poland	Okecie	WAW	52.10N	20.58E	344	6562
Washington, D. C., U.S.A.	Washington National	DCA	38.51N	77.02W	15	6900
Wellington, New Zealand	Wellington	WLG	41.20S	174.48E	38	5350
West End, Bahamas		WTD	26.40N	78.57W		
West Palm Beach, Fla., USA	Palm Beach Int'l	PBI	26.41N	80.06W	19	8000
Whitehorse, Canada	Whitehorse	YXY	60.43N	135.04W	2303	7200
Windhoek, S. W. Africa	J. G. Strydom	WDH	22.37S	17.05E		
Winnipeg, Manitoba, Canada	Stevenson	YWG	49.54N	97.14W	785	8700
Yellowknife, N.W.T., Canada	Yellowknife	YZF	62.28N	114.27W	672	7500
Zagreb, Yugoslavia	Pleso	ZAG	45.44N	16.04E		
Zurich, Switzerland	Zurich	ZRH	47.27N	8.33E	1414	12139

TABLE 8

ROUTES INDEXED ALPHABETICALLY AND UNDER BOTH TERMINALS

INDEX

SAO PAULO (Continued)
- New York - - - - - - - 171
- Puerto Alegre - - - - 175
- Recife - - - - - - - - 176
- Rio de Janeiro - - - - 177
- Santiago - - - - - - - 179

SAO TOME ISLAND
- Lisbon - - - - - - - - 146

SAPPORO
- Tokyo - - - - - - - - 179

SARAJEVO
- Belgrade - - - - - - - 57

SEATTLE
- Anchorage - - - - - - 28
- Bombay - - - - - - - - 68
- Buenos Aires - - - - - 78
- Cold Bay - - - - - - - 94
- Copenhagen - - - - - - 100
- Fairbanks - - - - - - 112
- Honolulu - - - - - - - 128
- Ketchikan - - - - - - 137
- Kodiak - - - - - - - - 139
- London - - - - - - - - 149
- Melbourne - - - - - - 157
- Mexico City - - - - - 159
- Montreal - - - - - - - 164
- Rome - - - - - - - - - 172
- Oslo - - - - - - - - - 173
- Paris - - - - - - - - 174
- Rio de Janeiro - - - - 177
- Shemya - - - - - - - - 179
- Stockholm - - - - - - 179
- Tokyo - - - - - - - - 179
- Toronto - - - - - - - 179
- Vancouver - - - - - - 180
- Winnipeg - - - - - - - 180

SEOUL
- Auckland - - - - - - - 37
- Bangkok - - - - - - - 41
- Mukden - - - - - - - - 166
- Taipei - - - - - - - - 180
- Tokyo - - - - - - - - 180

SEVILLE
- Casablanca - - - - - - 89
- Lisbon - - - - - - - - 146

SHANGHAI
- Hong Kong - - - - - - 127
- Lisbon - - - - - - - - 147
- London - - - - - - - - 149
- Mukden - - - - - - - - 166
- Rome - - - - - - - - - 177
- Tokyo - - - - - - - - 180

SHANNON
- Amsterdam - - - - - - 27
- Anchorage - - - - - - 28
- Basle - - - - - - - - 47
- Belfast - - - - - - - 56
- Berlin - - - - - - - - 60
- Bermuda - - - - - - - 63
- Bucharest - - - - - - 74
- Budapest - - - - - - - 76
- Cairo - - - - - - - - 82
- Casablanca - - - - - - 89
- Chicago - - - - - - - 91
- Cologne - - - - - - - 96
- Copenhagen - - - - - - 100
- Detroit - - - - - - - 106
- Dusseldorf - - - - - - 110

SHANNON (Continued)
- Frankfurt - - - - - - 114
- Gander - - - - - - - - 116
- Geneva - - - - - - - - 118
- Hamburg - - - - - - - 123
- Helsinki - - - - - - - 126
- Istanbul - - - - - - - 130
- Keflavik - - - - - - - 136
- London - - - - - - - - 150
- Los Angeles - - - - - 152
- Marseilles - - - - - - 156
- Milan - - - - - - - - 162
- Montreal - - - - - - - 164
- Moscow - - - - - - - - 165
- Munich - - - - - - - - 166
- New York - - - - - - - 171
- Prague - - - - - - - - 175
- Rome - - - - - - - - - 177

SHARJAH
- Colombo - - - - - - - 98
- El Adem - - - - - - - 111
- Istanbul - - - - - - - 131
- Karachi - - - - - - - 135

SHEMYA
- Seattle - - - - - - - 179
- Tokyo - - - - - - - - 180
- Vancouver - - - - - - 180
- Whitehorse - - - - - - 180

SINGAPORE
- Auckland - - - - - - - 37
- Bangkok - - - - - - - 41
- Beirut - - - - - - - - 51
- Butterworth - - - - - 79
- Cairo - - - - - - - - 82
- Calcutta - - - - - - - 84
- Cocos Island - - - - - 94
- Colombo - - - - - - - 98
- Darwin - - - - - - - - 105
- Djakarta - - - - - - - 108
- Hong Kong - - - - - - 127
- Karachi - - - - - - - 136
- Kuala Lumpur - - - - - 139
- Makassar - - - - - - - 154
- Manila - - - - - - - - 155
- New Delhi - - - - - - 169
- Perth - - - - - - - - 174
- Rangoon - - - - - - - 176
- Soerabaya - - - - - - 180
- Sydney - - - - - - - - 160
- Taipei - - - - - - - - 180
- Tananarive - - - - - - 180
- Tokyo - - - - - - - - 180

SKOPJE
- Belgrade - - - - - - - 57
- Dubrovnik - - - - - - 109

SOERABAYA
- Darwin - - - - - - - - 105
- Singapore - - - - - - 180

SOFIA
- Amsterdam - - - - - - 27
- Belgrade - - - - - - - 57

SONDRESTROMFJORD
- Amsterdam - - - - - - 27
- Anchorage - - - - - - 28
- Copenhagen - - - - - - 100
- Edmonton - - - - - - - 111
- Keflavik - - - - - - - 136
- London - - - - - - - - 150
- San Francisco - - - - 178

SONDRESTROMFJORD (Cont.)
- Winnipeg - - - - - - - 180

SPLIT
- Zagreb - - - - - - - - 181

STANLEYVILLE
- Khartoum - - - - - - - 137
- Leopoldville - - - - - 143
- Tananarive - - - - - - 181
- Tunis - - - - - - - - 181

STOCKHOLM
- Amsterdam - - - - - - 27
- Ankara - - - - - - - - 30
- Basle - - - - - - - - 48
- Beirut - - - - - - - - 52
- Belfast - - - - - - - 56
- Berlin - - - - - - - - 61
- Bucharest - - - - - - 74
- Budapest - - - - - - - 76
- Cairo - - - - - - - - 82
- Chicago - - - - - - - 91
- Cologne - - - - - - - 96
- Copenhagen - - - - - - 100
- Dusseldorf - - - - - - 110
- Frankfurt - - - - - - 114
- Geneva - - - - - - - - 118
- Hamburg - - - - - - - 123
- Helsinki - - - - - - - 126
- Keflavik - - - - - - - 137
- Leningrad - - - - - - 142
- Lisbon - - - - - - - - 147
- London - - - - - - - - 150
- Los Angeles - - - - - 152
- Madrid - - - - - - - - 154
- Marseilles - - - - - - 156
- Milan - - - - - - - - 162
- Montreal - - - - - - - 164
- Moscow - - - - - - - - 165
- New York - - - - - - - 171
- Oslo - - - - - - - - - 173
- Prague - - - - - - - - 175
- Rome - - - - - - - - - 177
- Seattle - - - - - - - 179
- Tel Aviv-Jaffa - - - - 181
- Tokyo - - - - - - - - 181
- Vienna - - - - - - - - 181
- Warsaw - - - - - - - - 181
- Zurich - - - - - - - - 181

SYDNEY
- Adelaide - - - - - - - 20
- Auckland - - - - - - - 37
- Brisbane - - - - - - - 71
- Christchurch - - - - - 92
- Darwin - - - - - - - - 105
- Hong Kong - - - - - - 127
- Honolulu - - - - - - - 128
- Karachi - - - - - - - 136
- Melbourne - - - - - - 157
- Mount Isa - - - - - - 166
- Nandi - - - - - - - - 168
- Ohakea - - - - - - - - 172
- Perth - - - - - - - - 174
- Port Morsby - - - - - 175
- Singapore - - - - - - 180
- Tahiti - - - - - - - - 181
- Wellington - - - - - - 181

TAHITI
- Honolulu - - - - - - - 128
- Mexico City - - - - - 159
- Nandi - - - - - - - - 168
- San Francisco - - - - 178
- Santiago - - - - - - - 179

TAHITI (Continued)
- Sydney - - - - - - - - 181

TAIPEI
- Auckland - - - - - - - 37
- Bangkok - - - - - - - 41
- Calcutta - - - - - - - 84
- Chung King - - - - - - 93
- Darwin - - - - - - - - 105
- Djakarta - - - - - - - 108
- Hong Kong - - - - - - 127
- Manila - - - - - - - - 156
- Mukden - - - - - - - - 166
- Okinawa - - - - - - - 172
- Seoul - - - - - - - - 180
- Singapore - - - - - - 180
- Tokyo - - - - - - - - 181

TAMPA
- Barbados - - - - - - - 43
- Montreal - - - - - - - 164

TANANARIVE
- Bombay - - - - - - - - 68
- Cairo - - - - - - - - 82
- Calcutta - - - - - - - 84
- Colombo - - - - - - - 98
- Darwin - - - - - - - - 105
- Djakarta - - - - - - - 108
- Johannesburg - - - - - 133
- Kano - - - - - - - - - 134
- Karachi - - - - - - - 136
- Nairobi - - - - - - - 167
- Singapore - - - - - - 180
- Stanleyville - - - - - 181

TARAKAN
- Djakarta - - - - - - - 108
- Medan - - - - - - - - 157
- Menado - - - - - - - - 158
- Padang - - - - - - - - 173

TEGUCIGALPA
- Belize - - - - - - - - 57
- Managua - - - - - - - 155
- Mexico City - - - - - 159
- Miami - - - - - - - - 161
- San Salvador - - - - - 179

TEHERAN
- Amsterdam - - - - - - 27
- Ankara - - - - - - - - 30
- Athens - - - - - - - - 35
- Baghdad - - - - - - - 39
- Basra - - - - - - - - 49
- Beirut - - - - - - - - 52
- Berlin - - - - - - - - 61
- Bombay - - - - - - - - 68
- Bucharest - - - - - - 74
- Budapest - - - - - - - 76
- Cairo - - - - - - - - 82
- Calcutta - - - - - - - 84
- Cologne - - - - - - - 96
- Copenhagen - - - - - - 100
- Dhahran - - - - - - - 107
- Dusseldorf - - - - - - 110
- Frankfurt - - - - - - 114
- Geneva - - - - - - - - 118
- Hamburg - - - - - - - 123
- Helsinki - - - - - - - 126
- Istanbul - - - - - - - 131
- Jidda - - - - - - - - 131
- Karachi - - - - - - - 136
- Khartoum - - - - - - - 137
- Lisbon - - - - - - - - 147
- London - - - - - - - - 150

TEHERAN (Continued)

Madrid	154
Marseilles	156
Milan	162
Moscow	165
Munich	167
Nairobi	167
New Delhi	169
Prague	175
Rome	177
Tel Aviv-Jaffa	181
Vienna	181
Warsaw	181
Zurich	182

TEL AVIV-JAFFA

Algiers	23
Amsterdam	27
Ankara	30
Athens	35
Bangkok	41
Basra	49
Beirut	52
Bengasi	58
Berlin	61
Bombay	68
Bucharest	74
Budapest	76
Cairo	82
Calcutta	84
Cologne	96
Colombo	98
Copenhagen	100
Dakar	103
Damascus	104
Dhahran	107
Dusseldorf	110
Frankfurt	115
Geneva	118
Hamburg	123
Istanbul	131
Karachi	136
Khartoum	137
Leopoldville	143
Lisbon	147
London	150
Madrid	154
Marseilles	156
Milan	162
Munich	167
Nairobi	167
New Delhi	169
New York	171
Nicosia	172
Prague	175
Rome	177
Stockholm	181
Teheran	181
Tripoli	182
Tunis	182
Vienna	182
Warsaw	182
Zurich	182

TESHAR

Rawalpindi	176

THULE

London	150
Vancouver	182
Winnipeg	182

TOKYO

Anchorage	28
Auckland	37
Bangkok	41

TOKYO (Continued)

Bombay	69
Chicago	91
Chitose	92
Cold Bay	94
Copenhagen	100
Darwin	106
Frankfurt	115
Fukuoka	115
Guam	120
Hong Kong	127
Honolulu	128
Johannesburg	133
London	150
Los Angeles	152
Manila	156
Melbourne	157
Midway	161
Mukden	166
New York	171
Okinawa	172
Osaka	172
Oslo	173
Perth	174
San Francisco	178
Sapporo	179
Seattle	179
Seoul	180
Shanghai	180
Shemya	180
Singapore	180
Stockholm	181
Taipei	181
Vancouver	182
Vienna	182
Wake Island	182

TORONTO

Barbados	43
Bermuda	63
Boston	69
Caracas	88
Chicago	91
Cleveland	94
Dallas	103
Detroit	106
Edmonton	111
Havana	125
Kingston	139
London	150
Mexico City	159
Montego Bay	163
San Francisco	178
Seattle	179
Trinidad	182
Vancouver	182
Winnipeg	182

TOWNSVILLE

Port Morsby	175

TRINIDAD

Barbados	43
Belize	57
Bermuda	63
Buenos Aires	78
Georgetown	119
Kingston	139
London	150
Mexico City	159
Miami	161
Montevideo	163
Montreal	164
New York	171
Rio de Janeiro	177
Toronto	182

TRIPOLI

Aden	22
Algiers	23
Athens	35
Bangkok	42
Basra	49
Beirut	52
Bengasi	58
Bombay	69
Cairo	82
Calcutta	84
Colombo	98
Damascus	104
Dhahran	107
Frankfurt	115
Jidda	131
Johannesburg	133
Kano	134
Karachi	136
Khartoum	137
Lagos	140
Leopoldville	143
Lisbon	147
London	150
Madrid	154
Malta	154
Milan	162
Nairobi	167
New Delhi	169
Rome	177
Tel Aviv-Jaffa	182
Tunis	183

TUNIS

Algiers	23
Athens	35
Bangkok	42
Basra	49
Beirut	52
Bengasi	59
Bombay	69
Cairo	82
Calcutta	84
Casablanca	89
Colombo	98
Damascus	104
Dhahran	107
Kano	134
Karachi	136
Libreville	143
Lisbon	147
London	150
Madrid	154
Milan	162
Nairobi	168
New Delhi	169
Rome	177
Stanleyville	181
Tel Aviv-Jaffa	182
Tripoli	183
Vienna	183
Zurich	183

USHUAIA

Buenos Aires	79
Santiago	179

VANCOUVER

Amsterdam	27
Boston	70
Chicago	92
Churchill	93
Cleveland	94
Cold Bay	94
Denver	106
Detroit	106

VANCOUVER (Continued)

Edmonton	111
Frobisher Bay	115
Goose Bay	119
Honolulu	128
Kansas City	134
London	150
Los Angeles	152
Mexico City	160
Montreal	164
New Orleans	170
New York	172
Philadelphia	175
Pittsburgh	175
San Francisco	178
Seattle	180
Shemya	180
Thule	182
Tokyo	182
Toronto	182
Washington, D.C.	183
Whitehorse	183
Winnipeg	183
Yellowknife	183

VENICE

London	150

VIENNA

Amsterdam	27
Ankara	30
Athens	36
Baghdad	39
Barcelona	45
Basle	48
Beirut	52
Belfast	56
Berlin	61
Bled	64
Bucharest	74
Budapest	76
Cairo	82
Chicago	92
Cologne	96
Copenhagen	100
Dakar	103
Dusseldorf	111
Frankfurt	115
Geneva	118
Hamburg	123
Helsinki	126
Istanbul	131
Leopoldville	143
Lisbon	147
London	150
Los Angeles	152
Madrid	154
Marseilles	157
Milan	162
Montreal	164
Moscow	165
Munich	167
Nairobi	168
New York	172
Prague	176
Rome	177
Stockholm	181
Teheran	181
Tel Aviv-Jaffa	182
Tokyo	182
Tunis	183
Warsaw	183
Zurich	183

WADI HALFA

Khartoum	138